

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

PETROGLYPH OPERATING CO., INC.

3. ADDRESS OF OPERATOR

P.O. BOX 607, ROOSEVELT, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)

At surface

1980' FSL & 1060' FWL NW/4SW/4

At proposed prod. zone

323

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

22.5 MILES SOUTHWEST OF MYTON, UTAH

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT. 1060'  
(Also to nearest drlg. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

533.33

19. PROPOSED DEPTH

6122'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6382.4' GRADED GROUND

22. APPROX. DATE WORK WILL START\*

OCTOBER, 1996

23.

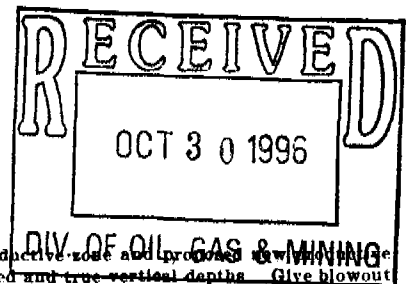
PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24.0#	250'	135 sx class "G" + 2% CaCl <sub>2</sub>
7 7/8	5 1/2	15.5#	6122'	+ 1/4 #/sx celloflake.
				50/50 POZMIX + 2% GEL + 10% SALT TO 400' ABOVE ALL ZONES OF INTEREST (+ 10% EXCESS). LIGHT CEMENT (11 PPG ±) + LCM TO 200' ABOVE OIL SHALE OR FRESH WATER INTERVALS (+ 5% EXCESS).

CONFIDENTIAL

PETROGLYPH OPERATING CO., INC. WILL BE THE DESIGNATED  
OPERATOR OF THE SUBJECT WELL UNDER BOND # BO 4556.

p.c.: Utah Division of Oil, Gas, and Mining  
Bureau of Indian Affairs, Fort Duchesne, Utah  
Ute Tribe, Fort Duchesne, Utah



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE AGENT FOR PETROGLYPH

DATE 10-3-1996

(This space for Federal or State office use)

PERMIT NO.

43-013-31741

APPROVAL DATE

APPROVED BY

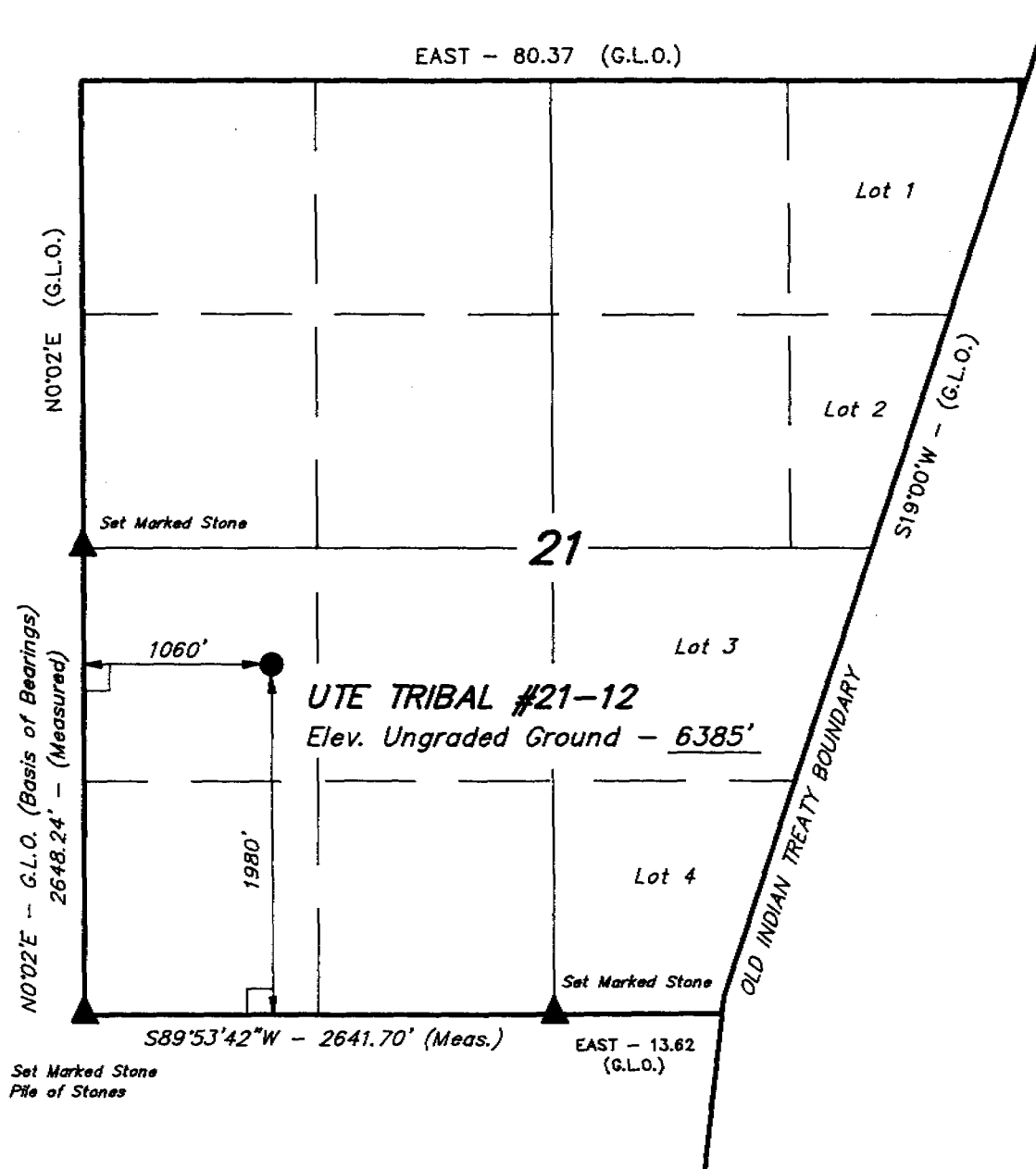
TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

T5S, R3W, U.S.B.&M.



**LEGEND:**

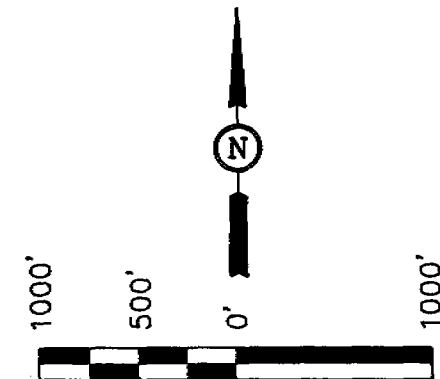
- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

**PETROGLYPH OPERATING CO., INC.**

Well location, UTE TRIBAL #21-12, located as shown in the NW 1/4 SW 1/4 of Section 21, T5S, R3W, U.S.B.&M. Duchesne County, Utah.

**BASIS OF ELEVATION**

SPOT ELEVATION LOCATED IN THE NW 1/4 SW 1/4 OF SECTION 28, T5S, R3W, U.S.B.&M. TAKEN FROM THE MYTON SW QUADRANGLE, UTAH, DUCHESNE COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6573 FEET.



**SCALE**

**CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE MAP WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF UTAH  
COUNTY OF DUCHESNE  
G.S. NO. 161319  
BY ROBERT L. [Signature]  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

<b>UINTAH ENGINEERING &amp; LAND SURVEYING</b> 85 SOUTH 200 EAST - VERNAL, UTAH 84078 (801) 789-1017		
SCALE 1" = 1000'	DATE SURVEYED: 7-2-96	DATE DRAWN: 7-8-96
PARTY G.S. B.P. C.B.T.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE PETROGLYPH OPERATING CO., INC.	

**Petroglyph Operating Co., Inc.**  
**P.O. Box 1839**  
**Hutchinson, KS 67504-1839**

October 3, 1996

Utah Division of Oil, Gas, & Mining  
Attn: Mr. Frank Matthews, Petroleum Engineer  
1594 West North Temple  
Box 145801  
Salt Lake City, UT 84114-5801

RE: APPLICATION FOR PERMIT TO DRILL  
UTE TRIBAL #21-12  
NW/SW SEC. 21, T5S, R3W  
DUCHESNE COUNTY, UTAH  
LEASE NO. BIA 14-20-H62-3516  
UTE TRIBAL LANDS

Dear Mr. Matthews:

Enclosed please find a copy of the Application for Permit to Drill and associated attachments for the referenced well.

Please address further communication regarding this matter (including approval) to:

Ed Trotter  
P.O. Box 1910  
Vernal, UT 84078  
Phone # (801) 789-4120  
Fax # (801) 789-1420

Sincerely,

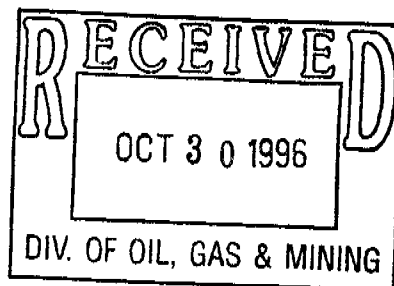


Ed Trotter  
Agent

Petroglyph Operating Co., Inc.

Attachments

/EHT/dmt



State of Utah  
Division of Oil, Gas & Mining  
1594 West North Temple  
Box 145801  
Salt Lake City, UT 84114-5801

October 31, 1996

RE: Application for Exception Well Location  
Proposed Ute Tribal #21-12  
Township 5 South, Range 3 West  
Section 21: NW/4 SW/4  
Duchesne County, Utah

Gentlemen,

Petroglyph Operating Company, Inc. (Petroglyph) respectfully requests administrative approval per R-649-3-3 to drill the Ute Tribal #21-12 a 6122' Green River test, at a location 1980' FSL & 1060' FWL, NW/4 SW/4, Section 21, Township 5 South Range 3 West, Duchesne County, Utah.

The aforementioned footage is not a location at which a well could be drilled in compliance with the spacing order of this lease, which established 40 acre drilling units.

Enclosed is a topographic map which depicts the surface contour in the area of the subject location. Petroglyph believes the proposed exceptionally spaced location to be the preferred location from a construction standpoint. Also this location is preferred by the Bureau of Indian Affairs Resource Department and the Ute Indian Tribe, Energy and Minerals Department who regulate activities on this land.

Petroglyph Operating Company Inc. holds 100% of the operating rights underlying the subject drilling unit as well as drilling units within a one-half mile radius of the subject unit.

Petroglyph respectfully requests the Division of Oil, Gas and Mining Administratively grant this application for the exceptional well location at its earliest opportunity.

Please direct further correspondence and approval to myself at P.O. Box 1910, Vernal, Utah 84078, or phone me at 801-789-4120.

Sincerely,



Petroglyph Operating Company Inc.  
Ed Trotter, Agent

EIGHT POINT PLAN

UTE TRIBAL # 21-12  
NW/SW SEC. 21, T3S R3W  
DUCHESNE COUNTY, UTAH

1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:

FORMATIONS	DEPTH	SUBSEA
Mahogany Shale	2937	3455
'X' marker	4510	1882
Douglas Creek	4650	1742
"B" Limestone	5024	1368
B/Castle Peak Limestone	5584	808
Basal Carbonate Limestone	6012	380
Total Depth	6122	270

Anticipated BHP                      2600 psi

2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS FORMATIONS:

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
Oil/Gas	Douglas Creek	4650	1742
Oil/Gas	B/Castle Peak	5584	808
Other mineral zones	N/A		

3. PRESSURE CONTROL EQUIPMENT : BOP Schematic Diagram attached.

4. CASING PROGRAM :

<u>HOLE SIZE</u>		<u>INTERVAL</u>		<u>LENGTH</u>		<u>SIZE</u>		<u>WEIGHT</u>		<u>GRADE</u>		<u>MINIMUM SAFETY FACTOR</u>		
												<u>COLLAPSE</u>	<u>BURST</u>	<u>TENSILE</u>
12 1/4		0' - 250'		250'		8 5/8		24.0 #		J-55		1370 PSI	2950 PSI	263,000#
7 7/8		0' - 6122'		6122'		5 1/2		M-50 #		J-55		3650 PSI	4550 PSI	186,000#

All casing will be new or inspected.

EIGHT POINT PLAN

UTE TRIBAL # 21-12  
NW/SW SEC. 21, T5S R3W  
DUCHESNE COUNTY, UTAH

5. MUD PROGRAM

INTERVAL

0' - 250'  
250' - 4000'  
4000' - TD  
TD

MUD TYPE

Air  
Air/Mist & Aerated Water  
Air/3% KCL water or KCL substitute  
Gel/polyacrylamide polymer w/5-10% LCM

Sufficient mud inventory will be maintained on location during drilling to handle any adverse conditions that may arise.

6. VARIANCE REQUESTS:

- A. Petroglyph Operating Co., Inc. requests a variance to regulations requiring a straight run blooie line.
- B. Petroglyph Operating Co., Inc. requests a variance to regulations requiring an automatic ignitor or continuous pilot light on the blooie line.

7. EVALUATION PROGRAM:

Logs: Mud Logging  
Compensated Density-Compensated Neutron Log  
Dual Laterolog - Micro-SFL  
Numar (Magnetic Resonance Imaging Log)

T.D. to base of surface csg.  
T.D. to base of surface csg.  
T.D. to base of surface csg.  
@ Geologists discretion

Cores: None Programmed  
DST': None Programmed

Completion: To be submitted at a later date.

8. ABNORMAL CONDITIONS:

None anticipated.

EIGHT POINT PLAN

UTE TRIBAL # 21-12  
NW/SW SEC. 21, T5S R3W  
DUCHESNE COUNTY, UTAH

9. STANDARD REQUIRED EQUIPMENT:

- A. Choke Manifold
- B. Kelly Cock
- C. Stabbing Valve
- D. Visual Mud Monitoring

10. HAZARDOUS CHEMICALS:

No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

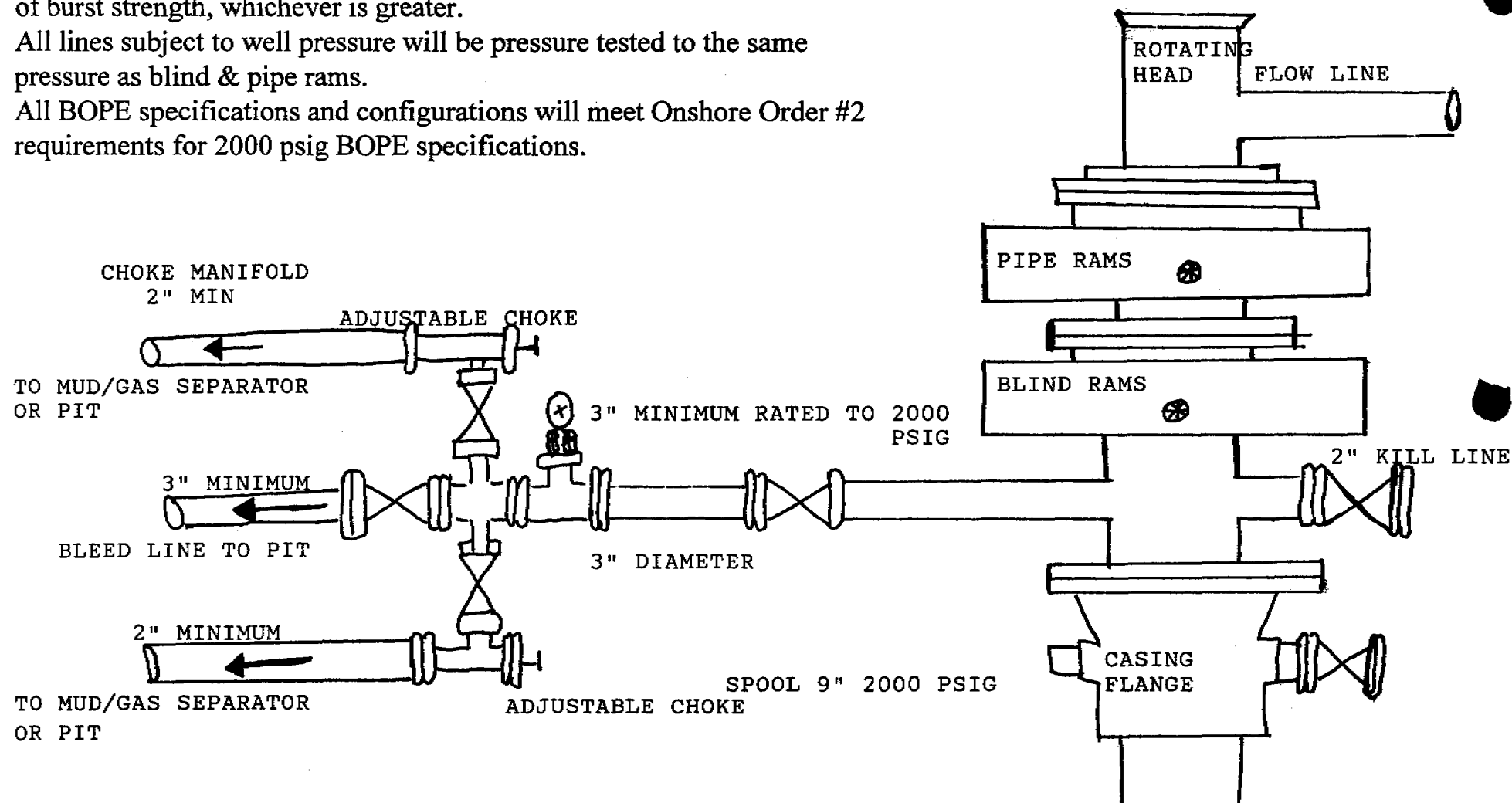
(Attachment: BOP Schematic Diagram)

## 2000 PSIG DIAGRAM

BOTH RAMS ARE 2000 PSIG RATED.  
CASING FLANGE IS 9" 2000 PSIG RATED.  
BOPE 9" 2000 PSIG

### TESTING PROCEDURE:

1. BOPE 's will be tested with a professional tester to conform to Onshore Order #2 with retest every 14 days.
2. Blind rams will be tested to rated working pressure, 2000 psig
3. Casing will be tested to 0.22 psi/ft. or 1500 psig. Not to exceed 70% of burst strength, whichever is greater.
4. All lines subject to well pressure will be pressure tested to the same pressure as blind & pipe rams.
5. All BOPE specifications and configurations will meet Onshore Order #2 requirements for 2000 psig BOPE specifications.



CONDITIONS OF APPROVAL  
FOR THE SURFACE USE PROGRAM OF THE  
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Petroglyph Operating Co., Inc.  
Well Name & Number: Ute Tribal #21-12  
Lease Number: BIA 14-20-H62-3516  
Location: 1980' FSL & 1060' FWL NW/SW, Sec. 21, T5S R3W  
U.S.B.&M., Duchesne County, Utah  
Surface Ownership: Ute Indian Tribe

NOTIFICATION REQUIREMENTS

Location Construction - forty-eight (48) hours prior to construction of  
location and access roads.

Location Completion - prior to moving on the drilling rig.

Spud Notice - at least twenty-four (24) hours prior to spudding the  
well.

Casing String and  
Cementing - twenty-four (24) hours prior to running casing and  
cementing all casing strings.

BOP and related  
Equipment Tests - twenty-four (24) hours prior to running casing and  
tests.

First Production  
Notice - within five (5) business days after new well begins  
or production resumes after well has been off  
production for more than ninety (90) days.

For more specific details on notification requirements, please check the  
Conditions of Approval for Notice To Drill and Surface Use Program.

## THIRTEEN POINT SURFACE USE PROGRAM

### 1. EXISTING ROADS

- A. See attached Wellsite Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing road.
- B. The proposed well site is located approximately 22.5 miles southwest of Myton, Utah - See attached TOPO Map "A".
- C. Refer to attached Topographic Map "A" showing labeled access route to location.
- D. Existing roads will be maintained and repaired as necessary. No off lease Right-of-Way will be required.

### 2. PLANNED ACCESS ROAD

- A. The access road will be approximately 0.3 miles in length. See attached TOPO Map "B"
- B. The access road has a 30 foot ROW w/18 foot running surface.
- C. Maximum grade on access road will be 8%
- D. No turnouts will be required.
- E. Road drainage crossings shall be of the typical dry creek drainage crossing type.
- F. No culverts, bridges or major cuts & fills will be required.
- G. The access road will be dirt surface.
- H. No gates, cattleguards or fences will be required or encountered.

New or reconstructed roads will be centerlined - flagged at time of location staking.

All travel will be confined to existing access road Right-of-Way. Access roads and surface disturbing activities will conform to standards outlined in the Bureau of Land Management and Forest Service Publication: Surface Operating Standards For Oil & Gas Exploration and Development, (1989).

The road shall be upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. Upgrading shall include ditching, drainage, graveling, crowning, and capping the

roadbed as necessary to provide a well-constructed safe road.

Prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Traveling off the 30 foot Right-of- Way will not be allowed.

Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossings nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by run off water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions. Should mud holes develop, they shall be filled in and detours around them avoided.

As operator, Petroglyph Operating Co., Inc. shall be responsible for all maintenance on cattleguards, or gates associated with this oil and/or gas operation.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS OF PROPOSED WELL LOCATION

- A. Water wells - None
- B. Abandoned wells - None
- C. Temporarily abandoned wells - None.
- D. Disposal wells - None.
- E. Drilling wells - None.
- F. Producing wells - 11\*
- G. Shut in wells - None
- H. Injection wells - None

(\*See attached TOPO map "C" for location)

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

A. ON WELL PAD

- 1. Tank batteries - None
- 2. Production facilities-To be submitted later
- 3. Oil gathering lines - None

4. Gas gathering lines-None
5. Injection lines - None
6. Disposal lines - None
7. Surface pits - None

**B. OFF WELL PAD**

1. Proposed location of attendant off pad flowlines shall be flagged prior to archaeological clearance.
2. A 4 1/2" OD steel above ground production pipeline will be laid approximately 1400' from proposed location to a point in the SW/SW of Section 21, T5S, R3W, where it will tie into Petroglyph Operating Co., Inc.'s existing facility at the Ute Tribal #21-13 tank battery. Proposed pipeline crosses Ute Tribe lands, thus a Right-of-Way grant will be required. See attached TOPO Map D showing pipeline route.
3. Proposed pipeline will be a 4 1/2" OD steel, welded line laid on the surface.
4. Protective measures and devices for livestock and wildlife will be taken and/or installed where required.

If storage facilities/tank batteries are constructed on this lease, the facility/battery or the well pad shall be surrounded by a containment dike of sufficient capacity to contain, at a minimum, the entire contents of the largest tank within the facility/battery, unless more stringent protective requirements are deemed necessary by the authorized officer.

The production facilities will be placed on the Ute Tribal #21-13 location.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities required will be painted within 6 months of installation. Facilities required to comply with O.S.H.A.

(Occupational Safety and Health Act) will be excluded.

The required paint color is Desert Brown.

5. LOCATION & TYPE OF WATER SUPPLY

- A. Water supply will be from Target Trucking's Roosevelt Brine Storage and/or Target's water source in SE 1/4, Sec. 1, T 4S, R 5W Duchesne County, Utah (State water right #43-10152). All water will come from a non-depletable source.
- B. Water will be hauled by Target Trucking.
- C. No water well will be drilled on lease.

6. SOURCE OF CONSTRUCTION MATERIAL

- A. All construction material for this location and access road will be of native borrow and soil accumulated during the construction of location.
- B. All construction material will come from Ute Tribal Land.
- C. No mineral materials will be required.

7. METHODS OF HANDLING WASTE DISPOSAL

A. METHODS AND LOCATION

- 1. Cuttings will be confined in the reserve pit.
- 2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.
- 3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at an approved waste disposal facility.
- 4. Produced waste water will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, together with the required water analysis, will be submitted for the AO's approval.

5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on drilling rig to avoid leakage of oil to pit.

B. Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in reserve pit or be removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to reserve pit will be avoided by flaring them off in flare pit at time of recovery.

Burning of trash will not be allowed. All trash must be contained in a trash cage and hauled away to an approved disposal site at the completion of the drilling activities.

On BIA administered land:

All reserve pits will be lined with either native clay, commercial bentonite or plastic sufficient to prevent seepage. (If a plastic nylon reinforced liner is used, it shall be torn and perforated after the pit dries and before backfilling of the reserve pit).

A 12 mill liner shall be installed in the reserve pit.

\_\_\_ To protect the environment:

If the reserve pit is lined the operator will provide the BIA with a chemical analysis of the fluids in that pit no later than 90 days after the well completion to determine the method for final reclamation of the reserve pit. If the elemental concentrations shown by the chemical analysis exceeds the requirements described by part II, Standards of Quality for Waters of the State, Wastewater Disposal Regulations, State of Utah Division of Health, the contents and liner will be removed and disposed of at an authorized disposal site.

\_\_\_ To protect the environment (without a chemical analysis)  
reserve pits will be constructed so as not to leak, break, or allow discharge of liquids.

\_\_\_ Storage tanks will be used if drill sites are located on tribal

irrigable land, flood plains, or on lands under crop production.

After first production, produced waste water will be confined to a lined pit or storage tank for a period not to exceed ninety (90) days. During the 90 day period, in accordance with NTL-2B, an application for approval of a permanent disposal method and location, along with required water analysis, shall be submitted for the AO's approval. Failure to file an application within the time allowed will be considered an incident of noncompliance.

## 8. ANCILLARY FACILITIES

- A. No airstrips or camps are planned for this well.

## 9. WELL SITE LAYOUT

- A. Refer to attached well site plat for related topography cuts and fills & cross sections.
- B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.
- C. Refer to attached well site plat for rig orientation parking areas, and access road.

The reserve pit will be located on the North side of the location.

The flare pit will be located downwind of the prevailing wind direction on the North side of the location, a minimum of 100 feet from the well head and 30 feet from the reserve pit fence.

The stockpiled topsoil will be stored on the Northeast corner.

Access to the well pad will be from the West.

N/A Diversion ditch(es) shall be constructed on the \_\_\_\_\_ side of the location (above/below) the cut slope, draining to the \_\_\_\_\_

N/A Soil compacted earthen berm(s) shall be placed on the \_\_\_\_\_ side(s) of the location between the \_\_\_\_\_

N/A The drainage(s) shall be diverted around the sides of the well pad location.

N/A The reserve pit and/or pad locations shall be constructed long and narrow for topographic reasons \_\_\_\_\_

X Corners No. 4 & 8 will be rounded off to minimize excavation.

## FENCING REQUIREMENTS

All pits will be fenced according to the following minimum standards:

- A. 39 inch net wire shall be used with at least one strand of barbed wire on top of the net wire. (barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence).
- B. The net wire shall be no more than 2 inches above the ground. The barbed wire strand shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
- C. Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- D. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than 16'.
- E. All wire shall be stretched by using a stretching device before it is attached to the corner posts.

The reserve pit fencing will be on the three sides during drilling operations and on the fourth side when the rig moves off the location. Pits will be fenced and maintained until clean-up.

Each existing fence to be crossed by the access road shall be braced and tied off before cutting so as to prevent slacking of the wire. The opening shall be closed temporarily as necessary during construction to prevent the escape of livestock, and upon completion of construction the fence shall be repaired to BIA or SMA specifications. A cattleguard with an adjacent 16 foot gate shall be installed in any fence where a road is to be regularly travelled. If the well is a producer, the cattleguards (shall/ shall not) be permanently mounted on concrete bases. Prior to a new road, crossing any fence located on federal land, or any fence between federal land and private land, the operator will contact the BIA, who will in turn contact the grazing permittee or owner of said fence and offer him/her the opportunity to be present when the fence is cut in order to

satisfy himself/herself that the fence is adequately braced and tied off.

## 10. PLANS FOR RESTORATION OF SURFACE

### A. PRODUCING LOCATION

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.

Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.

If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion (weather permitting). Before any dirt work takes place, the reserve pit will be completely dry and all cans, barrels, pipe, fluid, and hydrocarbons, will be removed.

Contact appropriate surface management agency for required seed mixture.

### B. DRY HOLE/ABANDONED LOCATION

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and BIA will attach the appropriate surface rehabilitation conditions of approval.

#### ON BIA Administered lands:

Abandoned well sites, roads, or other disturbed areas will be restored to near their original condition. This procedure will include: (a) reestablishing irrigation systems where applicable, (b) reestablishing soil conditions in irrigated fields in such a way as to ensure cultivation and harvesting of crops and, (c) ensuring revegetation of the disturbed areas to the specifications of the Ute Indian Tribe or the BIA at the time of abandonment.

11. SURFACE OWNERSHIP

Access road: Ute Indian Tribe

Location: Ute Indian Tribe

12. OTHER INFORMATION

- A. Petroglyph Operating Co., Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the AO. Within five working days the AO will inform the operator as to:  
-whether the materials appear eligible for the National Register of historic Places;

the mitigation measures the operator will likely have to undertake before the site can be used.

-a time frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials that may be required.

Otherwise, the operator will be responsible for mitigation costs.

The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that required mitigation has been completed, the operator will then be allowed to resume construction.

- B. As operator, Petroglyph Operating Co., Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BIA,

or the appropriate County Extension Office. On BIA administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application of herbicides or other pesticides or possible hazardous chemicals.

- C. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on Tribal Lands after the conclusion of drilling operations or at any other time without BIA authorization. However, if BIA authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities.

On BIA administered land:

Operator's employees, including subcontractors, will not gather firewood along roads constructed by operators. If wood cutting is required, a permit will be obtained from the Forestry Department of the BIA pursuant to 25 CFR 169.13 "Assessed Damages Incident to Right-of-Way authorization". All operators, subcontractors, vendors, and their employees or agents may not disturb saleable timber (including firewood) without a duly granted wood permit from the BIA Forester.

If the surface rights are owned by the Ute Indian Tribe and mineral rights are owned by another entity, an approved right-of-way will be obtained from the BIA before the operator begins any construction activities. If the surface is owned by another entity and the mineral rights are owned by the Ute Indian Tribe, rights-of-way will be obtained from the other entity.

All roads constructed by operators on the Uintah and Ouray Indian Reservation will have appropriate signs. Signs will be neat and of sound construction. They will state: (a) that the land is owned by the Ute Indian Tribe, (b) the name of the operator, (c) that firearms are prohibited to all non-Ute Tribal members (d) that permits must be obtained from the BIA before cutting firewood or other timber products, and (e) only authorized personnel permitted. All well site locations on the Uintah and Ouray Indian Reservation will have an appropriate sign indicating the name of the operator,

the lease serial number, the well name and number, the survey description of the well (either footage or the quarter-quarter section, the section, township, and range).

Additional Surface Stipulations

N/A No construction or drilling activities shall be conducted between

\_\_\_\_\_ and \_\_\_\_\_ because of \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

N/A No surface occupancy will be allowed within 1,000 feet of any sage grouse strutting ground.

N/A No construction or exploration activities are permitted within 1.5 mile radius of sage grouse strutting grounds from April 1 to June 30.

N/A There shall be no surface disturbance within 600 feet of live water (includes stock tanks, springs, and guzzlers).

N/A No cottonwood trees will be removed or damaged.

N/A Pond will be constructed according to BLM specifications approximately \_\_\_\_\_ ft. \_\_\_\_\_ of the location, as flagged on onsite.

LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

PERMITTING

Ed Trotter

1620 West 750 North

Vernal UT 84078

Telephone # (801)789-4120

Fax # (801) 789-1420

OPERATIONS

Deanna Bell

P.O. Box 607

Roosevelt, UT 84066

(801) 722-2531

Fax # (801) 722-9145

All lease/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approval plan of operations, and any applicable Notice to Lessees. Petroglyph Operating Co., Inc. is fully responsible for the actions of their subcontractors. A copy of these conditions will be furnished to the field representative to insure compliance.

A copy of the approved APD and ROW grant, if applicable, shall be on location during construction of the location and drilling activities.

The BIA Office shall be notified upon site completion prior to moving on the drilling rig.

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in the Plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Petroglyph Operating Co., Inc. and its contractors and sub-contractors in conformity with this Plan and the terms and conditions under which it is approved.

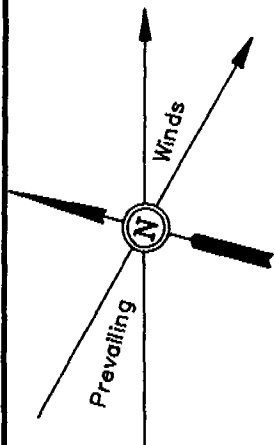
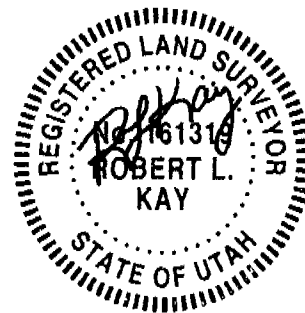
10-3-96  
Date



# PETROGLYPH OPERATING CO., INC.

## LOCATION LAYOUT FOR

UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
1980' FSL 1060' FWL



SCALE: 1" = 50'  
DATE: 7-8-96  
Drawn By: C.B.T.

### NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.

FLARE PIT



El. 92.1'  
C-17.7'  
(btm. pit)

Reserve Pit Backfill & Spoils Stockpile

NOTE:  
Pit Capacity W/2' of Freeboard is ±4,800 Bbls.

El. 94.5'  
C-20.1'  
(btm. pit)

El. 89.9'  
C-7.5'

RESERVE PITS  
(8' Deep)

Sta. 0+52

El. 92.7'  
C-10.3'

El. 86.5'  
C-4.1'

Topsoil Stockpile

El. 85.9'  
C-3.5'

El. 68.9'  
F-13.5'

Sta. 2+75

Round Corners as Needed

PIPE RACKS

El. 84.8'  
C-2.4'

RIG DOG HOUSE

100'

Sta. 1+50

El. 66.2'  
F-16.2'

Approx. Toe of Fill Slope

TRAILER

TOILET

FUEL

MUD SHED

HOPPER

POWER

TOOLS

FUEL

STORAGE TANK

TRASH

El. 95.1'  
C-12.7'

El. 94.3'  
C-11.9'

El. 79.3'  
F-3.1'

Proposed Access Road

Elev. Ungraded Ground at Location Stake = 6384.8'

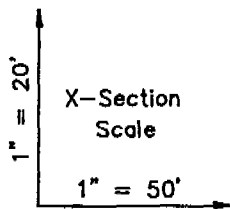
Elev. Graded Ground at Location Stake = 6382.4'

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East • Vernal, Utah 84078 • (801) 788-1017

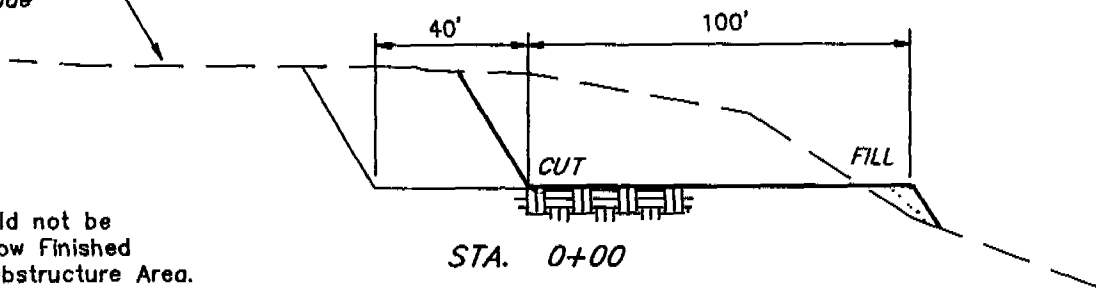
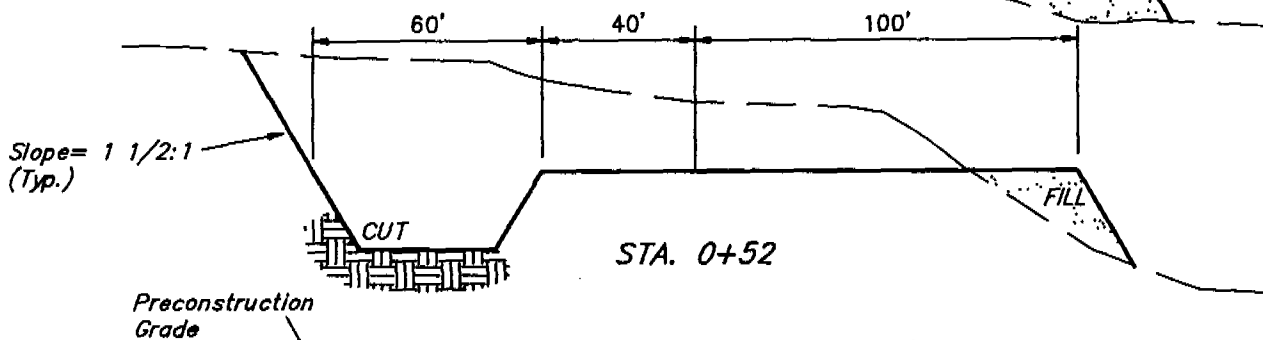
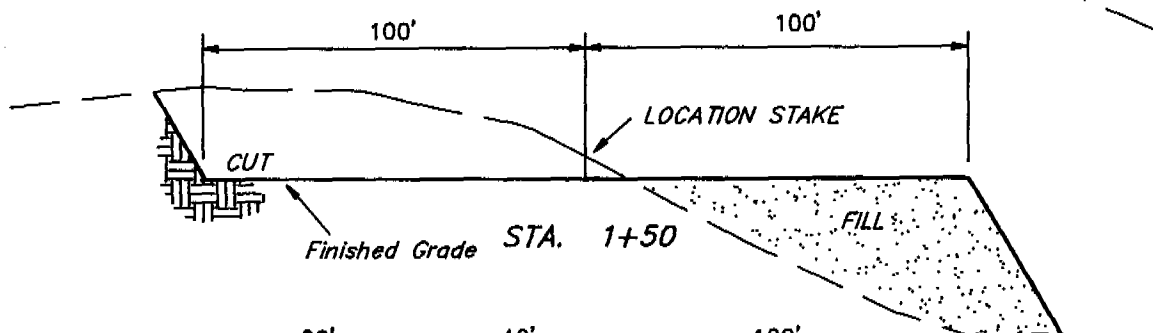
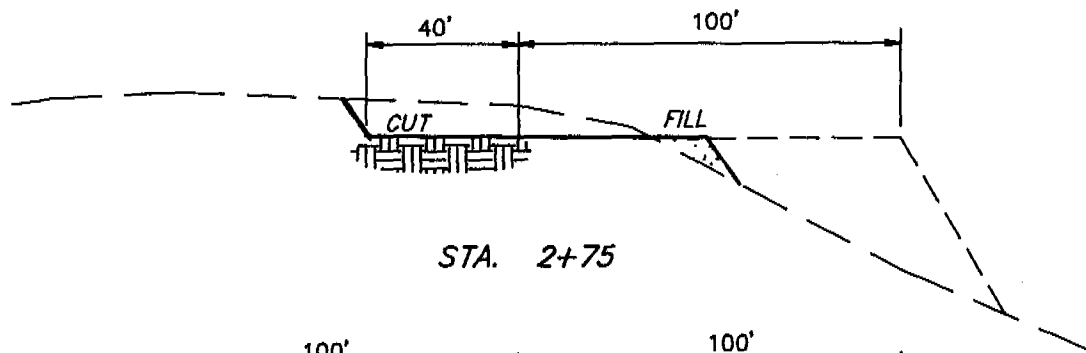
# PETROGLYPH OPERATING CO., INC.

## TYPICAL CROSS SECTIONS FOR

UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
1980' FSL 1060' FWL



DATE: 7-8-96  
Drawn By: C.B.T.



### NOTE:

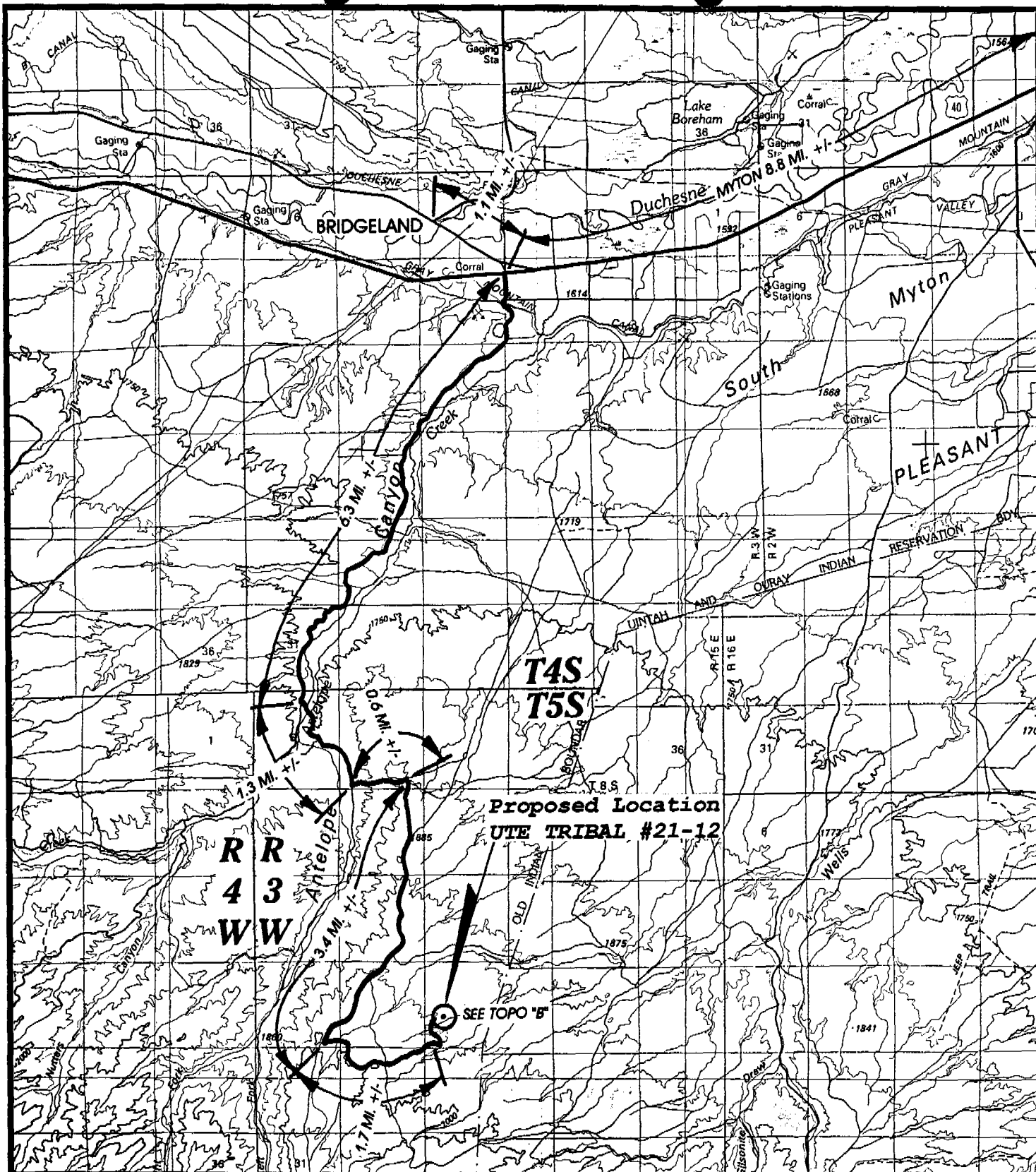
Topsoil should not be Stripped Below Finished Grade on Substructure Area.

### APPROXIMATE YARDAGES

(12") Topsoil Stripping = 1,670 Cu. Yds.  
Remaining Location = 7,790 Cu. Yds.  
TOTAL CUT = 9,460 CU.YDS.  
FILL = 6,740 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION = 2,370 Cu. Yds.  
Topsoil & Pit Backfill (1/2 Pit Vol.) = 2,370 Cu. Yds.  
EXCESS UNBALANCE (After Rehabilitation) = 0 Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



**UELS**

**TOPOGRAPHIC  
MAP "A"**

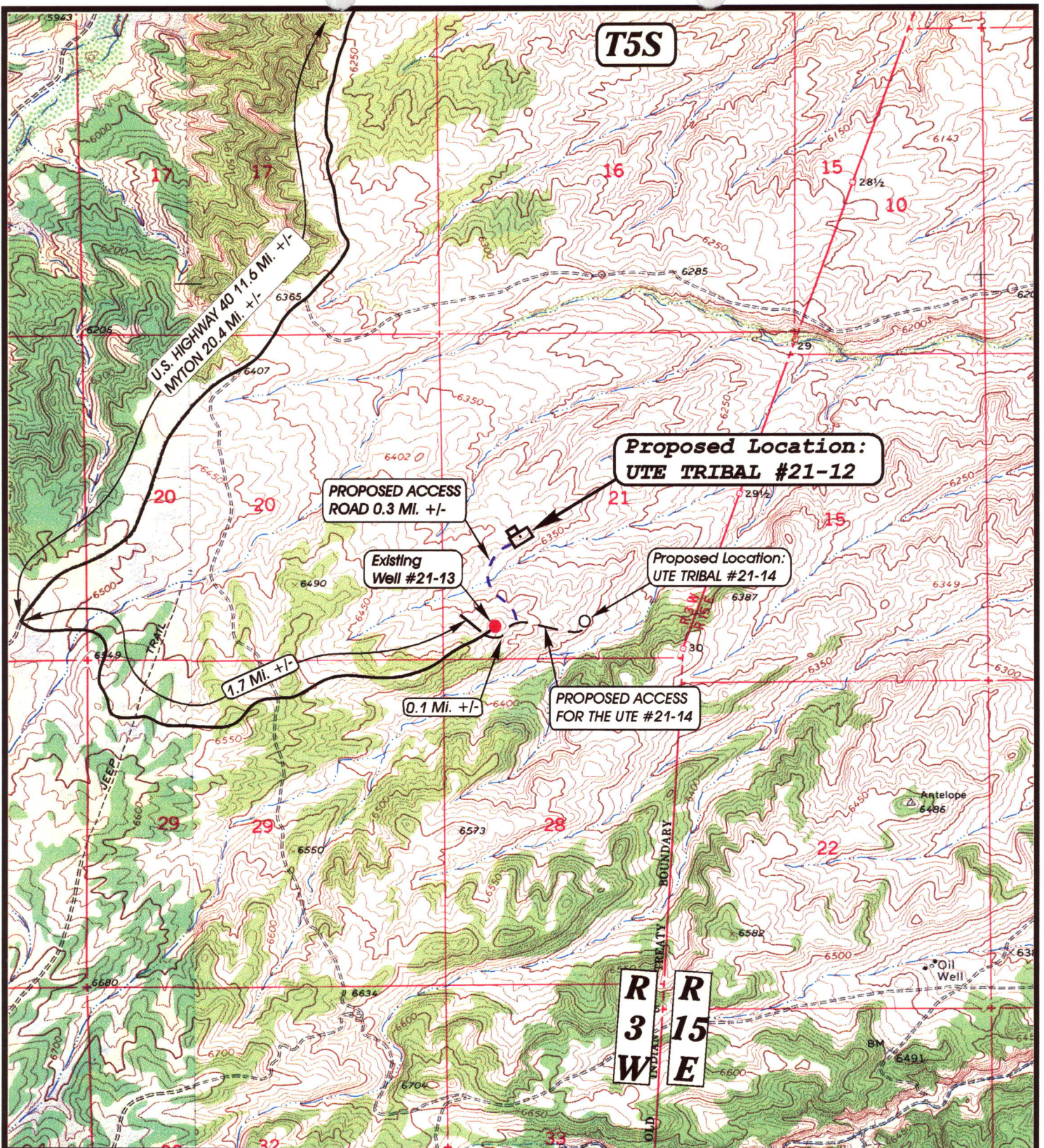
**DATE: 7-3-96**  
**Drawn by: D.COX**

**UINTAH ENGINEERING & LAND SURVEYING**  
 85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



**PETROGLYPH OPERATING CO., INC.**

**UTE TRIBAL #21-12**  
**SECTION 21, T5S, R3W, U.S.B.&M.**  
**1980' FSL 1060' FWL**



**UEIS**

**TOPOGRAPHIC  
MAP "B"**

**DATE: 7-3-96  
Drawn by: D.COX**

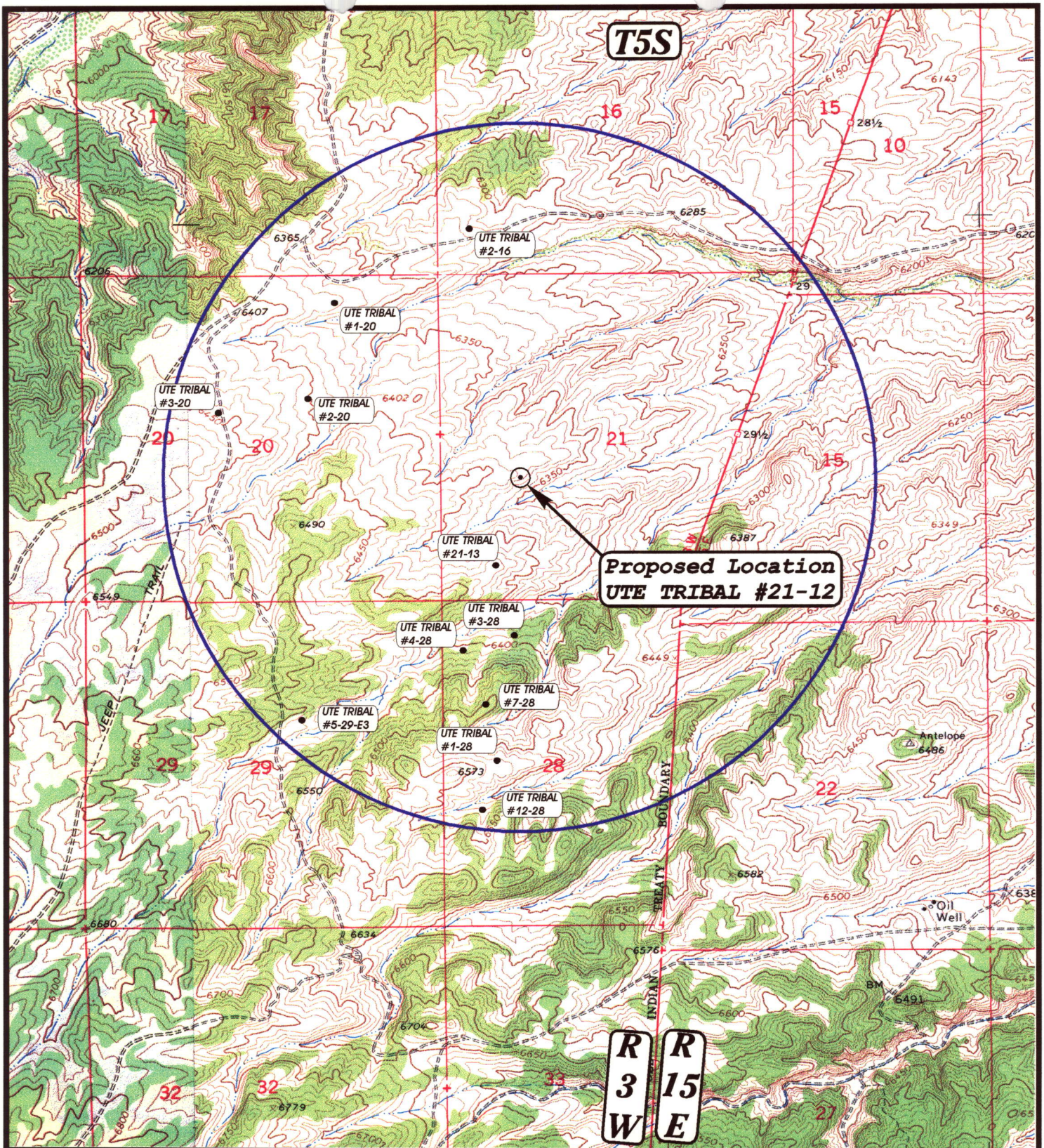
**UINTAH ENGINEERING & LAND SURVEYING**  
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



**PETROGLYPH OPERATING CO., INC.**

**UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
1980' FSL 1060' FWL**

**SCALE: 1" = 2000'**



**LEGEND:**

- UEIS**
- Water Wells
  - Abandoned Wells
  - Temporarily Abandoned Wells
  - Disposal Wells
  - Drilling Wells
  - Producing Wells
  - Shut-In Wells

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



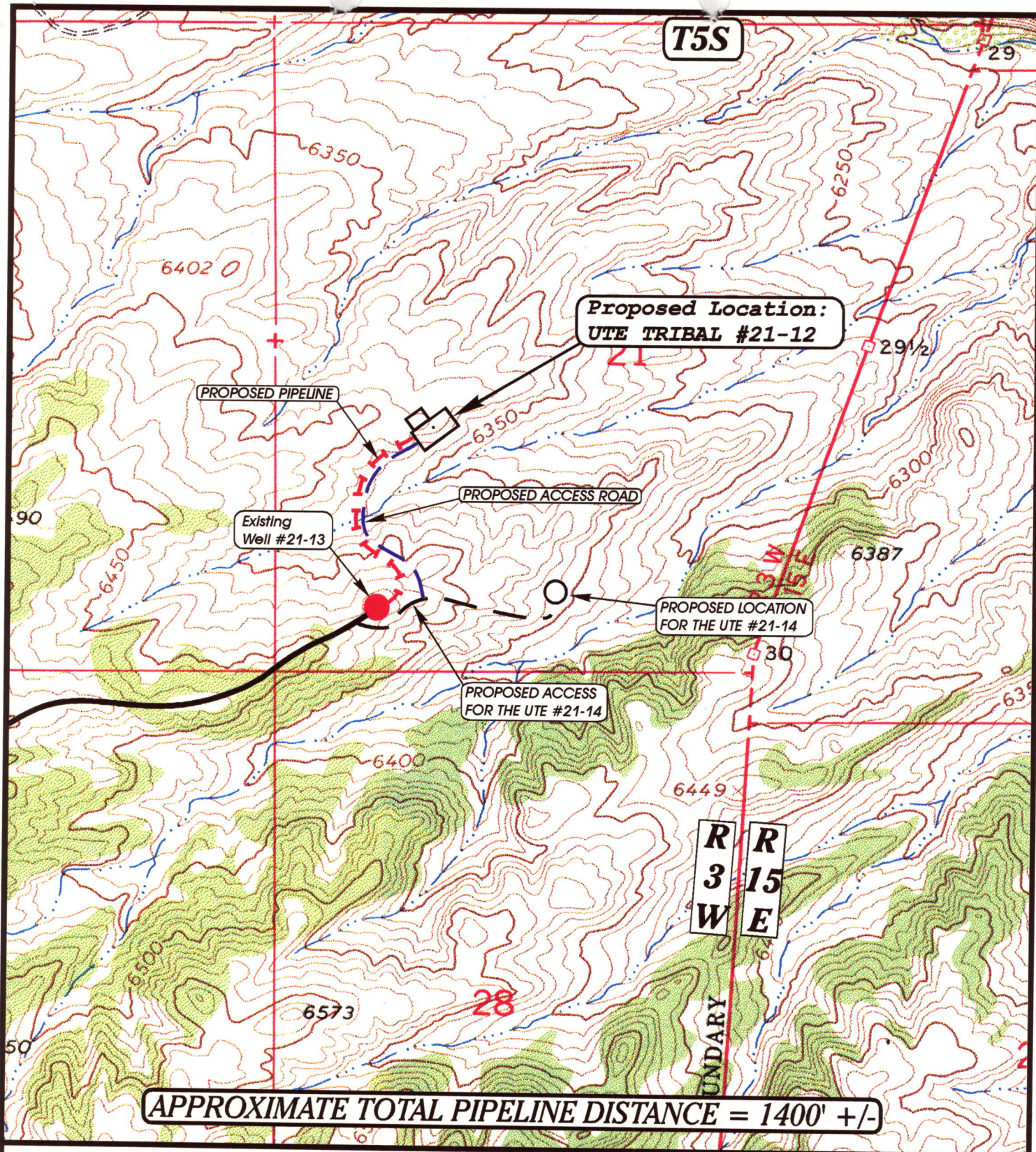
SCALE: 1" = 2000'

**PETROGLYPH OPERATING CO., INC.**

UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.

**TOPOGRAPHIC  
MAP "C"**

DATE: 7-3-96 Drawn by: D.COX



**TOPOGRAPHIC  
MAP "D"**

**UEIS**

----- Existing Pipeline  
 HHHHHHHH Proposed Pipeline



**PETROGLYPH OPERATING CO., INC.**

UTE TRIBAL #21-12  
 SECTION 21, T5S, R3W, U.S.B.&M.

**DATE: 7-3-96**

**Drawn by: D.COX**

UINTAH ENGINEERING & LAND SURVEYING  
 85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/30/96

API NO. ASSIGNED: 43-013-31741

WELL NAME: UTE TRIBAL 21-12  
OPERATOR: PETROGLYPH OPERATING (N3800)

PROPOSED LOCATION:

NWSW 21 - T05S - R03W  
SURFACE: 1980-FSL-1060-FWL  
BOTTOM: 1980-FSL-1060-FWL  
DUCHESNE COUNTY  
ANTELOPE CREEK FIELD (060)

LEASE TYPE: IND  
LEASE NUMBER: 14-20-H62-3516

PROPOSED PRODUCING FORMATION: GRRV

INSPECT LOCATION BY: / /

TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

☒ Plat  
☒ Bond: Federal [☒ State[] Fee[]  
(Number 4556)  
☒ Potash (Y/N)  
☒ Oil shale (Y/N)  
☒ Water permit  
(Number 43-10152)  
☒ RDCC Review (Y/N)  
(Date: )

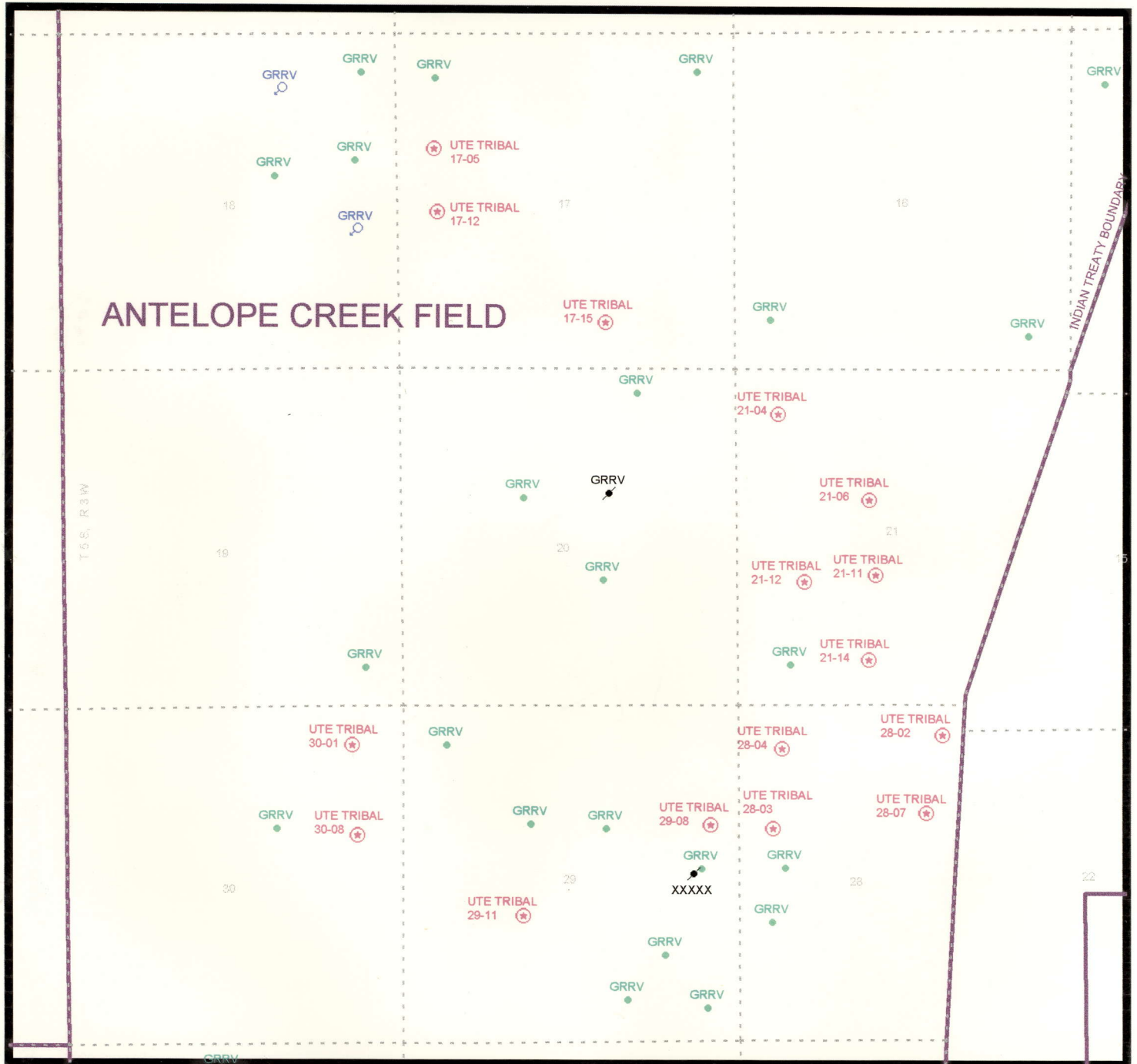
LOCATION AND SITING:

\_\_\_ R649-2-3. Unit: \_\_\_\_\_  
\_\_\_ R649-3-2. General.  
☒ R649-3-3. Exception.  
\_\_\_ Drilling Unit.  
Board Cause no: \_\_\_\_\_  
Date: \_\_\_\_\_

COMMENTS:

STIPULATIONS:

**OPERATOR: PETROGLYPH**  
**FIELD: ANTELOPE CREEK (060)**  
**SEC. TWP. RNG: 17 & 21, T5S R3W**  
**COUNTY: DUCHESNE**  
**UAC: R649-3-2 & R649-3-3**



**PREPARED:**  
**DATE: 30-OCT-96**

**STATE OF UTAH, DIV OF OIL, GAS & MINERALS**

<b>Operator: PETROGLYPH OPERATING</b>	<b>Well Name: UTE TRIBAL 21-12</b>
<b>Project ID: 43-013-31741</b>	<b>Location: SEC. 21 - T5S - R3W</b>

Design Parameters:

Mud weight ( 8.90 ppg) : 0.462 psi/ft  
 Shut in surface pressure : 2444 psi  
 Internal gradient (burst) : 0.063 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttress : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

Length (feet)		Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	6,122	5.500	15.50	M-50	ST&C	6,122	4.890	
	Collapse Load Strgth S.F. (psi) (psi)			Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load Strgth S.F. (kips) (kips)	
1	2830	3650	1.290	2830	4550	1.61	94.89	186 1.96 J

Prepared by : MATTHEWS, Salt Lake City, Utah

Date : 11-04-1996

Remarks :

**GREEN RIVER**

Minimum segment length for the 6,122 foot well is 1,500 feet.

SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas

temperature of 117°F (Surface 74°F , BHT 160°F & temp. gradient 1.400°/100 ft.)

String type: Production

The mud gradient and bottom hole pressures (for burst) are 0.462 psi/ft and

2,830 psi, respectively.

**NOTE:**

The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttress tension, 1.5 - body yield tension, and 1.6 - EUE 8rd tension. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.  
 Costs for this design are based on a 1987 pricing model. (Version 1.07)



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

November 4, 1996

Petroglyph Operating Company, Inc.  
P.O. Box 607  
Roosevelt, Utah 84066

Re: Ute Tribal 21-12 Well, 1980' FSL, 1060' FWL, NW SW, Sec. 21,  
T. 5 S., R. 3 W., Duchesne County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-013-31741.

Sincerely,

R. J. Firth  
Associate Director

lwp

Enclosures

cc: Duchesne County Assessor  
Bureau of Land Management, Vernal District Office



Operator: Petroglyph Operating Company, Inc.  
Well Name & Number: Ute Tribal 21-12  
API Number: 43-013-31741  
Lease: 14-20-H62-3516  
Location: NW SW Sec. 21 T. 5 S. R. 3 W.

### Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews at (801)538-5334 or Mike Hebertson at (801)538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

PETROGLYPH OPERATING CO., INC.

3. ADDRESS OF OPERATOR

P.O. BOX 607, ROOSEVELT, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface

1980' FSL & 1060' FWL NW/4SW/4

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

22.5 MILES SOUTHWEST OF MYTON, UTAH

10. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT. 1060'  
(Also to nearest drig. unit line, if any)

16. NO. OF ACRES IN LEASE

533.33

17. NO. OF ACRES ASSIGNED

TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

6122'

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6382.4' GRADED GROUND

22. APPROX. DATE WORK WILL START\*

OCTOBER, 1996

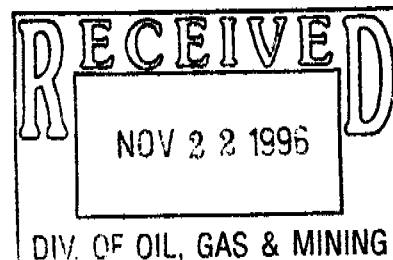
23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24.0#	250'	135 sx class "G" + 2% CaCl <sub>2</sub> + 1/4 #/sx celloflake. 50/50 POZMIX + 2% GEL + 10% SALT TO 400' ABOVE ALL ZONE OF INTEREST (+ 10% EXCESS). LIGHT CEMENT (11 PPG +) + LCM TO 200' ABOVE OIL SHALE OR FRESH WATER INTERVALS (+ 5% EXCESS).
7 7/8	5 1/2	15.5#	6122'	

PETROGLYPH OPERATING CO., INC. WILL BE THE DESIGNATED  
OPERATOR OF THE SUBJECT WELL UNDER BOND # BO 4556.

p.c.: Utah Division of Oil, Gas, and Mining  
Bureau of Indian Affairs, Fort Duchesne, Utah  
Ute Tribe, Fort Duchesne, Utah



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE AGENT FOR PETROGLYPH

DATE 10-3-1996

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

Assistant Field Manager  
Mineral Resources

DATE NOV 01 1996

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED  
61080-7M-022  
\*See Instructions On Reverse Side

NOTICE OF APPROVAL

**CONDITIONS OF APPROVAL**  
**APPLICATION FOR PERMIT TO DRILL**

Company/Operator: Petroglyph Operating Company

Well Name & Number: Ute Tribal 21-12

API Number: 43-013-31741

Lease Number: 14-20-H62-3516

Location: NWSW Sec. 21 T. 5S R. 3W

**NOTIFICATION REQUIREMENTS**

- |                                 |   |   |
|---------------------------------|---|---|
| Location Construction           | - | at least forty-eight (48) hours prior to construction of location and access roads.   |
| Location Completion             | - | prior to moving on the drilling rig.  |
| Spud Notice                     | - | at least twenty-four (24) hours prior to spudding the well.   |
| Casing String and Cementing     | - | at least twenty-four (24) hours prior to running casing and cementing all casing strings.   |
| BOP and Related Equipment Tests | - | at least twenty-four (24) hours prior to initiating pressure tests.   |
| First Production Notice         | - | within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days. |

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

## CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Orders, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative by the operator to insure compliance.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

### A. DRILLING PROGRAM

#### 1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Report **ALL** water shows and water-bearing sands to Tim Ingwell of this office **prior to setting the next casing string or requesting plugging orders**. Faxed copies of State of Utah form OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

All usable water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

#### 2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a **2M** system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

If an air compressor is on location and is being utilized to provide air for the drilling medium while drilling, the special drilling requirements in Onshore Oil and Gas Order No. 2, regarding air or gas drilling shall be adhered to. If a mist system is being utilized then the requirement for a deduster shall be waived.

3. Casing Program and Auxiliary Equipment

Surface casing shall have centralizers on the bottom three joints, with a minimum of one centralizer per joint.

If conductor pipe is set it will be cemented to surface. If drive pipe is used it will be pulled prior to cementing surface casing.

As a minimum, the usable water and oil shale resources shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the top of the usable water zone identified at  $\pm 497$  ft. or by setting the surface casing at  $\pm 547$  ft.. If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

All Drill Stem tests (DST) shall be accomplished during daylight hours, unless specific approval to start during other hours is obtained from the AO. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vaporproof for safe operations). Packers can be released, but tripping should not begin before daylight unless prior approval is obtained from the AO.

A cement bond log (CBL) will be run from the production casing shoe to **TOP OF CEMENT** if the surface casing is set at  $\pm 547$  ft. or it will be run to **SURFACE** if the surface casing is set at  $\pm 250$  ft. and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the AO.

6. Notifications of Operations

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The Vernal District Office shall be notified, during regular work hours (7:45 a.m.-4:30 p.m., Monday through Friday except holidays), at least 24 hours prior to spudding the well.

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported in accordance with the requirements of NTL-3A or its revision.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should the well be successfully completed for production, the AO will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five (5) days following the date on which the well is placed on production.

Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever occurs first, without the prior written approval of the Authorized Officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-5 (b.9. d.), and shall be submitted to the appropriate District Office within sixty (60) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-5 (b. 4).

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the AO or his representative, or the appropriate Surface Managing Agency.

7. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted following initial installation and at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Vernal District Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.

In the event after-hours approval or notification is necessary, please contact one of the following individuals:

Wayne Bankert (801) 789-4170  
Petroleum Engineer

Ed Forsman (801) 789-7077  
Petroleum Engineer

Jerry Kenczka (801) 789-1190  
Petroleum Engineer

BLM FAX Machine (801) 781-4410

## EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES

While the following wastes are nonexempt, they are not necessarily hazardous.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste
- Refinery wastes
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation and miscellaneous solids.

Petroglyph Operating Company Inc.  
Well No. Ute Tribal #21-12

**SURFACE USE PLAN OF OPERATION**  
Conditions of Approval (COA's)

1. All vehicular traffic, personnel movement, construction and restoration operations should be confined to the areas examined, as referenced in report, and to the existing roadways and/or evaluated access routes.
2. All mitigation stipulations contained in the Bureau of Indian Affairs, combined site specific Environmental Analysis (EA) report shall be strictly adhered, during and after construction.
3. All personnel should refrain from collecting artifacts and from disturbing any significant cultural remains from subsurface deposits that are exposed or identified during construction.
4. The personnel from the Ute Tribe Energy & Minerals Department should be consulted, should cultural remains from subsurface deposits be exposed or identified during construction.
5. Upon completion of Application for Permit to Drill and Right-of-way, the Ute Tribe Energy & Minerals Resource Department will be notified by Petroglyph Operating Company so that a Tribal Technician can verify Affidavit of Completions.

**Mitigation stipulations from the combined site specific Environmental Analysis.**

1. Before the site is abandoned the company will be required to restore the well pad and access road to near their original state. The disturbed area will be reseeded with desirable perennial vegetation.
2. Noxious weeds will be controlled on all well sites and rights-of-way. If noxious weeds spread from the well sites or rights-of-way onto adjoining land, the company will also be responsible for their control.
3. The pipeline will be constructed to lay on the soil surface, and the right-of-way will not be bladed or cleared of vegetation.

Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way.

Where pipelines do not parallel roads but cross country between stations, they shall be welded in place at wellsites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

4. An open drilling system shall be used. Reserve pits will be lined with impervious synthetic liners. Prior to backfilling the reserve pit all fluids will be pumped from the pit into trucks and hauled to approved disposal sites. When the reserve pits are backfilled the surplus oil and mud, etc will be buried a minimum of 3.0 feet below the surface of the soil.
5. A closed production system will be used. Production fluids will be contained in leak proof tanks. All production fluids will be disposed of at approved disposal sites. The indiscriminate dumping of production fluids on roads, well sites or other areas will not be allowed.
6. Although the access roads have a 30 foot right-of-way the bladed area of the road will be limited to 21 feet in all areas except where deep cuts and fills are required, sharp turns are required, or at the intersections with other roads.
7. Prior to the commencing surveys or construction on the U&O Indian Reservation the operator and any of its subcontractors, shall acquire access permits and business permits from the Ute Indian Tribe.
8. Prior to the commencement of construction, the operator shall notify the Ute Tribal Department of Energy and Minerals of the date construction shall begin.
9. Because the wellsite is located less than 1/2 mile but more than 1/4 mile from the active ferruginous hawk nest this wellsite will be constructed and drilled between August 15 and February 15. The access road shall be moved from where it is presently staked to a location on the east side of the wellsite.



STATE OF KANSAS  
DIVISION OF OIL, GAS AND MINING  
ENTITY ACTION FORM - FORM 6

OPERATOR Petroglyph Operating Co., Inc.  
ADDRESS P.O. Box 1839  
Hutchinson, KS 67504-1839

OPERATOR ACCT. NO. H 3800

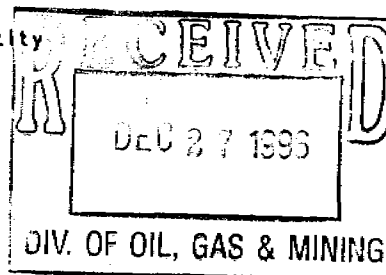
ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	09985	43-013-31741	Ute Tribal 21-12	NWSW	21	5S	3W	Duchesne	11-22-96	
WELL 1 COMMENTS: <i>Entity added 12-30-96. Ute Tribal 21-12 will tie into Ute Tribal 21-13 Tank Battery.</i>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

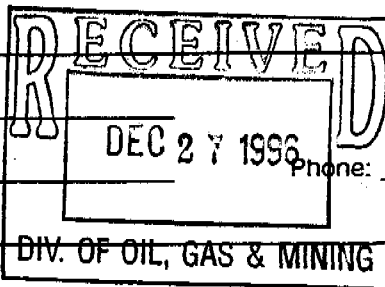
(3/89)



*Deanna K. Bell*  
Signature Deanna K. Bell  
Title Operations Coordinator 11-25-96  
Date  
Phone No. (801) 722-2531

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

## REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: LITE TRIBAL 21-12API number: 43-013-317412. Well Location: QQ NWSW Section 21 Township 5S Range 3W County Duchesne3. Well operator: PETROGLYPHAddress: P.O. Box 1839  
Hutchinson, KS 67504-1839Phone: (316) 665-85004. Drilling contractor: Union DrillingAddress: P.O. Drawer 40  
Buckhannon, WV 26201Phone: (304) 472-4610

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
	<u>540</u>	<u>DAMP</u>	<u>F NO Flow</u>
<u>540</u>		<u>DAMP</u>	<u>F NO Flow</u>
		<u>Blow Test</u>	<u>Blow Test 560</u>
		<u>1 GAL in 5 min.</u>	<u>1/8-1/4" x 7"</u>
<u>1440</u>			<u>FRESH</u>

6. Formation tops:

---



---



---



---

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge.

Date: 11-29-96

Name &amp; Signature:

Title: Driller

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE\*

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

(See reverse side)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other ☐  
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVR. ☐ Other ☐

2. NAME OF OPERATOR  
Petroglyph Operating Company, Inc.

3. ADDRESS OF OPERATOR  
P. O. Box 1839, Hutchinson, KS 67504-1839

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface

1980' FSL & 1060' FWL, NW SW

At top prod. interval reported below

At total depth

6122' RTD

14. PERMIT NO.  
43-013-31741

DATE ISSUED

12. COUNTY OR PARISH  
Duchesne

13. STATE  
Utah

15. DATE SPUDDED  
11-23-96

16. DATE T.D. REACHED  
11-29-96

17. DATE COMPL. (Ready to prod.)  
1-5-97

18. ELEVATIONS (OF, RKB, RT, OR, ETC.)\*  
6382

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD  
6122'

21. PLUG, BACK T.D., MD & TVD  
6093'

22. IF MULTIPLE COMPL., HOW MANY\*

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

24. PRODUCING INTERVAL(S). OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

Green River

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN

CNL, AIT 3-17-97

27. WAS WELL CORED

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8	24#	261	12-1/4	150 sx G Neat + 2% CaCl2	
5-1/2	15.5#	6119	7-7/8	90 sx Highlift + 320 sx 10-0 RFC	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-7/8	5646	

31. PERFORATION RECORD (Interval, size and number)

5572-76 (17 shots)  
4714-20 (25 shots)  
4690-94 (12 shots)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5572-76	3894 gal fluid; 13200# prop
4690-4720	7438 gal fluid; 33900# prop

33. PRODUCTION

DATE FIRST PRODUCTION 1-20-97		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) pumping, 2½ x 1½ x 16 40 ring PA				WELL STATUS (Producing or shut-in) producing	
DATE OF TEST 1-22-97	HOURS TESTED 24	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL. 10	GAS—MCF. 0	WATER—BBL. 38	GAS-OIL RATIO
FLOW. TUBING PRESS. 500		CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)  
sold; used for fuel

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Glenn S. Baluch

TITLE

Production Analyst

DATE 1-28-97

\*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
X Marker	4515					
Douglas Creek	4659					
B Limestone	5040					
Castle Peak	5594					
Basal Carbonate	6010					

**EQUIPMENT INVENTORY**  
**UTAH DIVISION OF OIL, GAS AND MINING**  
**STATE OF UTAH**

Operator: PETROGLYPH Lease: State:        Federal:        Indian: X Fee:       

Well Name: UTE TRIBAL #21-12 API Number: 43-013-31741

Section: 21 Township: 5S Range 3W County DUCHESNE Field: ANTELOPE CREEK  
Well Status: POW Well Type: Oil: YES Gas:       

**PRODUCTION LEASE EQUIPMENT: (NUMBER)**

Boiler(s):        Compressor(s):        Separator(s):        Dehydrator(s):       

Shed(s):        Line Heater(s): (1) Heated Separator(s):        VRU:       

Heater Treater(s):       

**PUMPS:**

Triplex:        Chemical:        Centrifugal: (1)

**LIFT METHOD:**

Pumpjack: YES Hydraulic:        Submersible:        Flowing:       

**GAS EQUIPMENT: (NUMBER)**

Purchase Meter: NO Sales Meter: YES

**TANKS:**

NUMBER

SIZE

Oil Storage Tank(s): N/A        BBLS

Water Tank(s): N/A        BBLS

Power Water Tank:               BBLS

Condensate Tank(s):               BBLS

Propane Tank: NONE

**Central Battery Location: (IF APPLICABLE)**

Qtr/Qtr: SW/SW Section: 21 Township: 5S Range: 3W

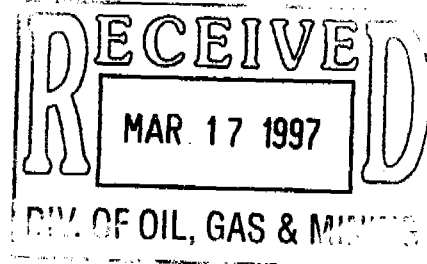
REMARKS: ALL FUILDS PIPED OFF LEASE TO UTE TRIBAL 21-13. GAS IS METERED AT  
CENTRAL BATTERY. TRACE PUMP IS FOR GLYCOL. FIELD AND IS NOT METERED.

Inspector: DENNIS L. INGRAM Date: 2/11/97

# PETROGLYPH Operating Company, Inc.

6209 North Highway 61, Hutchinson, Kansas 67502 • P.O. Box 1839, Hutchinson, Kansas 67504-1839

March 12, 1997



VIA UPS

Vicky Dyson  
State of Utah  
Division of Oil, Gas & Mining  
1594 W. North Temple, Ste.1210  
Salt Lake City, UT 84114

**CONFIDENTIAL**

Ms. Dyson:

Enclosed please find the logs listed below for the wells located in Duchesne County, Utah.

<u>Well Name</u>	<u>Log</u>
Ute Tribal 21-06	CNL, AIT
Ute Tribal 21-11	CNL, AIT
Ute Tribal 21-12	CNL, AIT
Ute Tribal 21-14	CNL, AIT

43 013 31741 53 3021

Please hold these in confidence as permitted in division guidelines.

I have received your request for logs on the Ute Tribal 21-03, Ute Tribal 21-04, and Ute Tribal 21-10. These logs are being copied and will be forwarded to you as soon as possible. If you need further information, please do not hesitate to call me at 316-665-8500.

Sincerely,

April Menzies  
Petroleum Engineering/Geology Technician

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side.**

5. Lease Serial No.  
1420H623516

6. If Indian, Allottee or Tribe Name  
UTE INDIAN TRIBE

7. If Unit or CA/Agreement, Name and/or No.  
1420H624650

8. Well Name and No.  
UTE TRIBAL 21-12

9. API Well No.  
43-013-31741

10. Field and Pool, or Exploratory  
ANTELOPE CREEK

11. County or Parish, and State  
DUCHESNE COUNTY, UT

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
PETROGLYPH OPERATING COMPANY, Contact: MICHEAL SAFFORD  
E-Mail: msafford@petroglyphenergy.com

3a. Address  
P.O. BOX 607  
ROOSEVELT, UT 84066

3b. Phone No. (include area code)  
Ph: 435.722.2531  
Fx: 435.722.9145

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
21  
Sec 4 T5S R3W Mer NWSW 1980FSL 1060FWL

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> WRK
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The above referenced well was reperforated and acidized on 4/30/2001.  
the zones reperforated are 4712-22, 5570-79 with 120 deg phasing 4 spf.  
zones treated with 15% HCL with additives are 5570-79 with 650 gallons, 4690-4722 with 1100 gallons.  
The well was put back to production on 5/3/2001.

**RECEIVED**

**AUG 21 2001**

**DIVISION OF  
OIL, GAS AND MINING**

14. I hereby certify that the foregoing is true and correct.  
**Electronic Submission #6401 verified by the BLM Well Information System  
For PETROGLYPH OPERATING COMPANY,, sent to the Vernal**

Name (Printed/Typed) MICHEAL SAFFORD

Title COORDINATOR

Signature

Date 08/13/2001

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

DEC 17 2004

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Matt Corser  
District Engineer  
Petroglyph Operating Company, Inc.  
4116 W 3000 South Ioka Lane  
P.O. Box 607  
Roosevelt, UT 84066

RECEIVED

DEC 23 2004

DIV. OF OIL, GAS & MINING

Accepted by the  
Utah Division of  
Oil, Gas and Mining

FOR RECORD ONLY

RE: Additional Well to Antelope Creek Area Permit  
UIC Permit No. UT20736-00000  
Well ID: UT20736-06479  
Ute Tribal No. 21-12, Duchesne County, Utah

Dear Mr. Corser:

The Petroglyph Operating Company, Inc. (Petroglyph) request to convert a former Green River Formation oil well, the Ute Tribal No. 21-12, to an enhanced recovery injection well in the Antelope Creek Waterflood Area Permit is hereby authorized. The proposed injection well is within the exterior boundary of the Uintah & Ouray Indian Reservation, and the addition is being made under the authority of 40 CFR §144.33 (c) and the terms of Antelope Creek Waterflood Area Permit UT20736-00000. Unless specifically mentioned in the enclosed Authorization For An Additional Well, all terms and conditions of the original Area Permit will apply to the conversion, operation, monitoring, and plugging of the Ute Tribal No. 21-12.

Prior to receiving Environmental Protection Agency (EPA) authorization to inject, the EPA requires that Petroglyph submit for review and approval the following Prior to Commencing Injection requirements: (1) the results of a **Part I (Internal) mechanical integrity test (MIT)**, (2) a **pore pressure** calculation of the injection interval, and (3) a completed **EPA Form No. 7520-12 Well Rework Record**.

EPA analysis of the Ute Tribal No. 21-12 CBL/GR did not identify sufficient 80% bond index cement bond index cement within the Green River Formation confining zone pursuant to Region 8 GROUND WATER SECTION GUIDANCE NO. 34: Cement Bond Logging Techniques and Interpretation. Therefore, it has not been determined that the cement in this



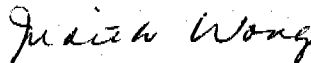
well provides an effective barrier to significant upward movement of fluids through vertical channels adjacent to the wellbore, and pursuant to 40 CFR 146.8 (a)(2) the operator is required to demonstrate Part II External Mechanical Integrity (MI) within a 180-day period of limited authorization to inject. Part II MI may be demonstrated using a Temperature Log, Noise Log, or Oxygen Activation Log. Region 8 may accept the results of a Radioactive Tracer Survey (RATS) under certain circumstances [See GROUND WATER SECTION GUIDANCE, NO. 37, Demonstrating Part II (External) Mechanical Integrity for Class II Injection Well Permit].

The initial Maximum Allowable Injection Pressure (MAIP) for the Ute Tribal No. 21-12 is **1900 psig**. A MAIP of 1900 psig may be calculated using submitted averaged fracture treatment data, and pursuant to Part II. Section C. Condition No. 4 of Area Permit UT20736-00000, the initial surface injection pressure shall not exceed 1900 psig. However Part II.C.4 also provides the opportunity for the permittee to request an increase or decrease in the initial MAIP based upon results of a step rate test that demonstrates the formation breakdown pressure will not be exceeded.

Please be aware that Petroglyph does not have authorization to begin injection into the Ute Tribal 21-12 until all Prior to Commencing Injection requirements listed above have been submitted and evaluated by the EPA, and Petroglyph has received written authorization from the EPA to begin injection.

If you have any questions, please call Mr. Dan Jackson at (303) 312-6155 or 1.800.227.8917 (Ext. 6155). Please submit the required data to **ATTENTION: DAN JACKSON**, at the letterhead address, citing **MAIL CODE: 8P-W-GW** very prominently.

Sincerely,



*for* Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

encl: Authorization For Conversion of An Additional Well  
EPA Form No. 7520-12 (Well Rework Record)  
Schematic Diagram: Conversion of Ute Tribal #21-12  
Guidance No. 37

cc: without enclosures

Maxine Natchees, Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe  
P.O. Box 190  
Fort Duchesne, UT 84026

Chester Mills  
BIA - Uintah & Ouray Indian Agency  
P.O. Box 130  
Fort Duchesne, UT 84026

cc: with enclosures;

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe  
P.O. Box 460  
Fort Duchesne, UT 84026

Gil Hunt  
Technical Services Manager  
Utah Division of Oil, Gas, and Mining  
1594 West North Temple - Suite 1220  
Salt Lake City, UT 84114-5801

Ed Forsman  
Sr. Petroleum Engineer  
BLM - Vernal District  
170 South 500 East  
Vernal, UT 84078

Nathan Wiser, 8ENF-UFO



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 8**  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

**AUTHORIZATION FOR ADDITIONAL WELL**

**ANTELOPE CREEK WATERFLOOD AREA PERMIT NO: UT20736-00000**

The Environmental Protection Agency (EPA) authorizes the inclusion of an additional enhanced recovery injection well to the Antelope Creek Waterflood Area Permit No. UT20736-00000, as authorized by 40 CFR §144.33 (c). The additional well is described as:

Well Name:	<u>Ute Tribal 21-12</u>
EPA Well ID Number:	<u>UT20736-06479</u>
Surface Location:	1060' FWL & 1980' FSL NWSW Sec. 21 - T5S - R3W Duchesne County, Utah.

This well is subject to all provisions of the original Antelope Creek Waterflood Area Permit No. UT20736-00000, and subsequent Modifications, unless specifically detailed below:

**UNDERGROUND SOURCE OF DRINKING WATER (USDW):**

The base of the USDWs in the Ute Tribal 21-12 occurs within the Uinta Formation at approximately 1263' below ground level. The source for the location of the base of the USDWs is the STATE OF UTAH PUBLICATION NO. 2., BASE OF MODERATELY SALINE GROUND WATER IN THE UINTA BASIN, UTAH. Surface casing was set at 261' KB and cemented to the surface.

**WATER ANALYSES:**

Produced Green River Formation Water: **3,042 mg/l TDS.**

Additional Water Source : Johnson Water District Reservoir. **689 mg/l TDS.**

Additional Water Source: **9,003 mg/l TDS.** (From Ground Water Wells in Section 8 at approximately 500-600' deep)

**Blended Injectate: 3,922 mg/l TDS.**

**CONFINING ZONE:**

In the Antelope Creek Field area, the Confining Zone for the Green River waterflood is identified as a unit of slightly silty black impervious shale that directly overlies the top of the "B"



Printed on Recycled Paper

Marker of the upper Green River Formation. Above the Confining Zone in the upper Green River Formation, additional impermeable lacustrine shales provide further protection for any overlying USDW. In the Ute Tribal No. 21-12 well, the impervious black shale Confining Zone is approximately fourteen (14) feet thick and it occurs between the depths of 4007' to 4021'.

EPA analysis of the Ute Tribal No. 21-12 CBL/GR did not identify sufficient 80% bond index cement bond index cement within the Green River Formation confining zone pursuant to Region 8 GROUND WATER SECTION GUIDANCE NO. 34: Cement Bond Logging Techniques and Interpretation. Therefore, it has not been determined that the cement in this well provides an effective barrier to significant upward movement of fluids through vertical channels adjacent to the wellbore, and pursuant to 40 CFR 146.8 (a)(2) the operator is required to demonstrate Part II External Mechanical Integrity (MI) within a 180-day period of limited authorization to inject. Part II MI may be demonstrated using a Temperature Log, Noise Log, or Oxygen Activation Log. Region 8 may accept the results of a Radioactive Tracer Survey (RATS) under certain circumstances [See GROUND WATER SECTION GUIDANCE, NO. 37, Demonstrating Part II (External) Mechanical Integrity for Class II Injection Well Permit].

#### **INJECTION ZONE:**

The Antelope Creek Waterflood Final Area Permit, Effective July 12, 1994, authorized injection into the Green River Formation. The operator proposes to inject water into multiple lenticular sands which are distributed throughout the Green River Formation. These sands are individually separated by shale which act as isolation barriers (secondary confining zones) for the waterflood.

The gross correlative Green River Formation enhanced injection recovery interval for the Ute Tribal No. 21-12 is from the base of the confining zone at 4021' to the top of the Basal Carbonate Formation at 6010'.

Lithologically, the gross authorized enhanced recovery injection interval is fluvial and lacustrine shale, fluvial and lacustrine sandstone, lacustrine marlstone and limestone. The Uinta and Green River Formations are predominantly non-lacustrine fluvial shale and sandstone deposited on the basin margins, whereas lacustrine deposition predominates in the central basin area for these two formations.

#### **WELL CONSTRUCTION: Ute Tribal No. 21-12.**

**SURFACE CASING:** 8-5/8" casing is set at 261' in a 12-1/4" hole, using 150 sacks of Class "G" cement circulated to the surface. The base of the USDW is approximately 1263' from ground level.

**LONGSTRING:** 5-1/2" casing is set at 6130' ground level (GL) in a 7-7/8" hole and  
**CASING** cemented with 415 sacks of Premium Lite II mixed with 50/50 Pozmix.

The operator identifies the top of cement at 2530' KB. EPA analysis of the CBL/GR shows the shallowest interval of 80% cement bond is from 4070' to 5224' in the Green River Formation.

**CONSTRUCTION REQUIREMENTS:**

**Tubing and Packer:**

(Condition 3)

For injection purposes, the Ute Tribal 21-12 will be equipped with 2-3/8" tubing with a packer to be set at a depth no higher than 100' above the top perforation, i.e., 4608'.

**Formation Testing and Logging**

(Condition 6)

- (a) Upon conversion of the Ute Tribal 21-12 and prior to injection, the operator is required to determine and submit to the EPA the injection zone **fluid pore pressure** (static bottom hole pressure).

**CORRECTIVE ACTION:**

As of October 2004, there is one (1) active Green River injection well and two active oil production wells within or proximate to the one-quarter (1/4) mile radius around the Ute Tribal No. 21-12. No Corrective Action is required.

**Green River Formation Oil Wells:**

**Ute Tribal No. 21-05:**

**SWNW Sec. 21-T5S-R3W**

**Ute Tribal No. 21-05E:**

**NWSE Sec. 21-T5S-R3W**

The owner/operator is required to inspect the surface of these locations for fluid leaks on a monthly basis. **Observation of surface leakage may be considered as noncompliance with the Permit**, injection operations shall be suspended immediately, and shall stay suspended until the noncompliance has been resolved and written approval to resume injection has been received from the Director.

**Green River Formation Injection Well**

**Ute Tribal No. 21-11:**

**NE SW Sec. 21-T5S-R3W**

**PART II. C. WELL OPERATION**

**PRIOR TO COMMENCING INJECTION (ADDITIONAL WELLS)**

(Condition 2)

This document is being issued without authority to inject. Prior to beginning injection, the operator is required to submit the following information for EPA review and written approval:

- A successful mechanical integrity test (MIT) demonstrating Part I (Internal) MI, and

- Pore pressure calculation of the proposed injection zone; and
- completed EPA Form No. 7520-12 (Well Rework Record, enclosed).

Please be advised that all tests must be conducted following current EPA Guidelines. Deviations from those Guidelines, without written approval of the Director, may result in denial of the survey/test.

**INJECTION INTERVAL**

(Condition 4)

Injection is limited to the gross Green River Formation "B" marker at 4021' to the top of the Basal Carbonate Member of the Green River Formation, estimated to be 6010' KB in this well.

**INJECTION PRESSURE LIMITATION**

(Condition 5)

The initial Maximum Allowable Injection Pressure (MAIP) for the Ute Tribal No. 21-12 is **1900 psig**. A MAIP of 1900 psig may be calculated using submitted averaged fracture treatment data (below), and pursuant to Part II. Section C. Condition No. 4 of Area Permit UT20736-00000, the initial surface injection pressure shall not exceed 1900 psig. However Part II.C.4 also provides the opportunity for the permittee to request an increase or decrease in the initial MAIP based upon results of a step rate test that demonstrates the formation breakdown pressure will not be exceeded.

$$\begin{aligned} \text{MIP} &= [\text{FG} - (0.433)(\text{SG})] * \text{D} \\ \text{FG} &= 0.84 \text{ psi/ft} - \text{Average value of two (2) submitted fracture treatment data} \\ \text{SG} &= 1.005 \\ \text{D} &= 4690' \text{ (top perforation)} \\ \text{MIP} &= [0.84 - (0.433)(1.005)] * 4690' \\ \text{MIP} &= 1898 \text{ psig (round up to 1900 psig)} \end{aligned}$$

**DEMONSTRATION OF FINANCIAL RESPONSIBILITY:**

(Condition 1)

The applicant has chosen to demonstrate financial responsibility via a **Surety Bond** that has been reviewed and approved by the EPA.

**REPORTING OF NONCOMPLIANCE:**

(Condition 10)

- (a) **Anticipated Noncompliance.** The operator shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (b) **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted **no later than thirty (30) days following each schedule date.**

- (c) Written Notice of any noncompliance which may endanger health or the environment **shall be reported to the Director within five (5) days** of the time the operator becomes aware of the noncompliance. The written notice shall contain a description of the noncompliance and its cause; the period of noncompliance including dates and times; if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to prevent or reduce recurrence of the noncompliance.

Twenty-Four Hour Noncompliance Reporting:

(Condition 11)

The operator shall report to the Director any noncompliance which may endanger health or environment. Information shall be provided, either orally or by leaving a message, within twenty-four (24) hours from the time the operator becomes aware of the circumstances by telephoning 1.800.227-8917 and asking for the EPA Region 8 UIC Program Compliance and Enforcement Director, or by contacting the Region 8 Emergency Operations Center at 303.293.1788 if calling from outside EPA Region 8. The following information shall be included in the verbal report:

- (a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW.
- (b) Any noncompliance with a Permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Oil Spill and Chemical Release Reporting:

(Condition 12)

The operator shall comply with all other reporting requirements related to oil spills and chemical releases or other potential impacts to human health or the environment by contacting the National Response Center (NRC) 1.800.424.8802 or 202.267.2675, or through the NRC website at <http://www.nrc.uscg.mil/index.htm>.

Other Noncompliance:

(Condition 13)

The operator shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part III. 10. c. ii. of the Permit.

Other Information:

Where the operator becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application, or in any report to the Director, the operator shall submit such correct facts or information within two (2) weeks of the time such information became known to him.

## APPENDIX C.

### **PLUGGING AND ABANDONMENT:**

The Plugging and Abandonment (P&A) Plan (Application Attachment Q-2) submitted by the applicant has been reviewed by the EPA. The P&A Plan is consistent with EPA requirements to protect all USDWs. The permittee shall place 9.2 ppg plugging gel or bentonite mud between all cement plugs.

PLUG NO. 1: Set a cast iron bridge plug (CIBP) at 4700 feet. Set a 50-foot Class. "G" cement plug on top of the CIBP.

PLUG NO. 2: Set a minimum 100' cement plug inside of the 5-1/2 inch casing from approximately 2898' to 2998' over a water zone.

PLUG NO. 3: Set a cement plug on the inside of the 5-1/2 inch casing, from at least 50' above to 50' below surface casing.

PLUG NO. 4: Set a cement plug, on the backside of the 5-1/2 inch casing, from surface to a depth of at least 50'.

(See attached Schematic.)

Cut off 8-5/8" and 5-1/2" casing at least 4' below ground level and set P&A Marker. Submit Sundry Notices and all necessary data to the Ute Tribe, the BLM and DOGM as required.

This **AUTHORIZATION FOR ADDITIONAL WELL** is effective upon signature.

Date: 12/16/04

*for* Michael Wong  
Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460**WELL REWORK RECORD**

NAME AND ADDRESS OF PERMITTEE

NAME AND ADDRESS OF CONTRACTOR

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

STATE

COUNTY

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

1/4 of 1/4 of 1/4 of 1/4 of Section Township Range

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface

Location ft. from (N/S) Line of quarter section

and ft. from (E/W) Line of quarter section

**WELL ACTIVITY**

- ☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name

Total Depth Before Rework

Total Depth After Rework

Date Rework Commenced

Date Rework Completed

**TYPE OF PERMIT**

- ☐ Individual  
☐ Area  
 Number of Wells

Well Number

**WELL CASING RECORD — BEFORE REWORK**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

**WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY**WIRE LINE LOGS, LIST EACH TYPE**

Log Types

Logged Intervals

**CERTIFICATION**

*I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).*

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED

Ute Tribal 21-12  
Proposed Wellbore Diagram

Well History:

11/23/1996 Spud Well

Top of Green River formation  
at 1620'. No USDW found in  
the Green River formation. *1620'*

*80% Bond 4070' - 5224'*

GL: 6382.4  
KB: 6392.4

Surface Hole Size 12 1/4"

8 5/8" 24# Surface CSG @  
261.28' KB cmt'd w/150 sx

Tubing: 2 3/8" 4.7#  
J-55

Hole Size 7 7/8" bit

*- 1263' Base USDWs*

Cement top @ 2530' KB

5 1/2" 15.5# K-55 CSG

*- 4007' - 4021' Confining Zone*

Injection Packer @ 4610'

Perf's:

C04 4690 to 4694'.

C05 4712 to 4722'.

C05 4714 to 4720'.

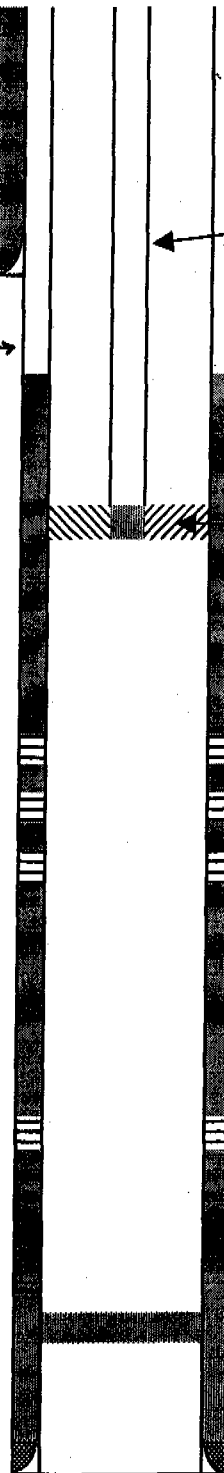
E00.2 5570 to 5579'.

*- 6010' Basal Carbonate*

PBTD @ 6093'

TD @ 6130' KB

Petroglyph Operating Co., Inc.
Ute Tribal #21-12 (1060' FWL & 1980' FSL) NW SW Section 21-T5S-R3W Antelope Creek Field Duchesne Co. Utah
API #43-013-31741 ; LEASE #14-20-H62-3516



(Not to Scale)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 300

DENVER, COLORADO 80202-2466

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 37  
Demonstrating Part II (external) Mechanical Integrity  
for a Class II injection well permit.

FROM: Tom Pike, Chief  
UIC Direct Implementation Section

TO: All Section Staff  
Montana Operations Office

During the review for a Class II injection well permit, consideration must be given to the mechanical integrity (MI) of the well. MI demonstrates that the well is in sound condition and that the well is constructed in a manner that prevents injected fluids from entering any formation other than the authorized injection formation.

A demonstration of MI is a two part process:

PART I - INTERNAL MECHANICAL INTEGRITY is an assurance that there are no significant leaks in the casing/tubing/packer system.

PART II - EXTERNAL MECHANICAL INTEGRITY demonstrates that after fluid is injected into the formation, the injected fluids will not migrate out of the authorized injection interval through vertical channels adjacent to the wellbore.

A Class II injection well may demonstrate Part II MI by showing that injected fluids remain within the authorized injection interval. This may be accomplished as follows:

- 1) Cement bond log showing 80% bond through the appropriate interval (Section Guidance 34),
- 2) Radioactive tracer survey conducted according to a EPA-approved procedure, or
- 3) Temperature survey conducted according to a EPA-approved procedure (Section Guidance 38).

For each test option above, the operator of the injection well should submit a plan for conducting the test. The plan will then be approved (or modified and approved) by EPA. EPA's pre-approval of the testing method will assure the operator that the



test is conducted consistent with current EPA guidance, and that the test will provide meaningful results.

Part II MI may be demonstrated either before or after issuing the Final Permit. However, if Part II is to be demonstrated after the Final Permit is issued, a provision in the permit will require the demonstration of Part II MI. The well will also be required to pass Part II MI prior to granting authorization to inject.

Radioactive tracer surveys and temperature surveys require that the well be allowed to inject fluids as part of the procedure. In these cases, a well that has shown no other demonstration of Part II MI will be allowed to inject only that volume of fluid that is necessary to conduct the appropriate test.

After the results of the test proves that the well has passed Part II MI, the well will be given authorization to begin full injection operations.

If any of the tests show a lack of Part II MI, the well will be repaired and retested, or plugged (See Headquarters Guidance #76).



# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program, UIC Direct Implementation Program 8P-W-GW  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Test conducted by: \_\_\_\_\_

Others present: \_\_\_\_\_

Well Name: _____	Type: ER SWD	Status: AC TA UC
Field: _____		
Location: _____	Sec: _____	T _____ N/S R _____ E/W County: _____ State: _____
Operator: _____		
Last MIT: ____/____/____	Maximum Allowable Pressure: _____	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No

Initial test for permit? ☐ Yes ☐ No

Test after well rework? ☐ Yes ☐ No

Well injecting during test? ☐ Yes ☐ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: \_\_\_\_\_ psig

MIT DATA TABLE		Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>				
Initial Pressure	psig	psig	psig	psig
End of test pressure	psig	psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>				
0 minutes	psig	psig	psig	psig
5 minutes	psig	psig	psig	psig
10 minutes	psig	psig	psig	psig
15 minutes	psig	psig	psig	psig
20 minutes	psig	psig	psig	psig
25 minutes	psig	psig	psig	psig
30 minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
<b>RESULT</b>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☐ No

## MECHANICAL INTEGRITY PRESSURE TEST

**Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:**

**Signature of Witness:** \_\_\_\_\_

## OFFICE USE ONLY - COMPLIANCE FOLLOWUP

**Staff**

Date: 11/1/98

Do you agree with the reported test results?     ☐ YES     ☒ NO

**If not, why?**

Possible violation identified? ☐ YES ☐ NO

**If YES, what**

If YES - followup initiated? ☐ YES

[ ] NO - why not?

## [ 1 ] Data Entry

☐ Compliance Staff

**[ ] 2<sup>nd</sup> Data Entry**

**☐ Hardcopy Filing**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

999 18<sup>TH</sup> STREET - SUITE 300

DENVER, CO 80202-2466

Phone 800-227-8917

<http://www.epa.gov/region08>

JAN 25 2005

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Matt Corser  
District Engineer  
Petroglyph Operating Company, Inc.  
4116 W 3000 South Ioka Lane  
P.O. Box 607  
Roosevelt, UT 84066

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

RECEIVED  
JAN 2 / 2005  
DIV. OF OIL, GAS & MINING

RE: **AUTHORIZATION TO INJECT**  
**Ute Tribal No. 21-12**  
**EPA Well ID: UT20736-06479**  
**EPA UIC Area Permit No. UT20736-00000**

Dear Mr. Corser:

Thank you for submitting information pertaining to the newly constructed or converted Ute Tribal No. 21-12 enhanced recovery injection well to the Region 8 Ground Water Program office of the Environmental Protection Agency (EPA). The "Prior To Commencing Injection" requirements of Authorization for Additional Well UT20736-06479, for the Ute Tribal No. 21-12 injection well, required well owner and operator Petroglyph Operating Company, Inc. to submit the following information to the Director:

- A successful **mechanical integrity test (MIT)** demonstrating Part I Internal MI,
- **Pore pressure calculation** of the proposed injection zone, and
- completed EPA Form No. 7520-12.

All required information has been submitted, and has been reviewed and approved by the EPA. Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal No. 21-12 enhanced recovery injection well under the



Printed on Recycled Paper

conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

As of this approval, responsibility for permit compliance and enforcement is transferred to the Region 8 UIC Technical Enforcement Program office. Therefore, please direct all future notification, reporting, monitoring and compliance correspondence to the following address, referencing your well and UIC Permit number on all correspondence regarding this well.

Technical Enforcement Program - UIC  
U.S. EPA Region 8, Mail Code 8ENF-UFO  
999 18th Street, Suite 300  
Denver, Colorado 80202-2466

The Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal No. 21-12 shall not exceed 1898 psig. Please be reminded that it is the responsibility of the owner/operator to be aware of, and to comply with, all conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

If you have any questions regarding this Authorization, please call Dan Jackson of my staff at (303) 312-6155. For questions regarding notification, testing, monitoring, reporting or other Permit requirements, the UIC Technical Enforcement Program may be reached by calling (800) 227-8917.

Sincerely,



Sandra A. Stavnes  
Director  
Ground Water Program

cc: Maxine Natchees, Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe  
P.O. Box 190  
Fort Duchesne, UT 84026

Chester Mills  
BIA - Uintah & Ouray Indian Agency  
P.O. Box 130  
Fort Duchesne, UT 84026

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe  
P.O. Box 460  
Fort Duchesne, UT 84026

Gil Hunt  
Technical Services Manager  
Utah Division of Oil, Gas, and Mining  
1594 West North Temple - Suite 1220  
Salt Lake City, UT 84114-5801

Ed Forsman  
Sr. Petroleum Engineer  
BLM - Vernal District  
170 South 500 East  
Vernal, UT 84078

Nathan Wiser, 8ENF-UFO

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Injection</u>		5. LEASE DESIGNATION AND SERIAL NUMBER: <u>1420H623516</u>
2. NAME OF OPERATOR: <u>Petroglyph Operating Co.</u>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <u>Ute Indian Tribe</u>
3. ADDRESS OF OPERATOR: <u>P.O. Box 607 CITY Roosevelt STATE UT. ZIP 84066</u>		7. UNIT or CA AGREEMENT NAME: <u>1420H624650</u>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <u>1980 FSL 1060 FWL</u>		8. WELL NAME and NUMBER: <u>Ute Tribal 21-12</u>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <u>NWSW Sec 21, T5S, R3W</u>		9. API NUMBER: <u>43-013-31741</u>
		10. FIELD AND POOL, OR WILDCAT: <u>Antelope Creek</u>
		COUNTY: <u>Duchesne</u>
		STATE: <u>UTAH</u>

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: <u>01-05-05</u>	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input checked="" type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

This well has been converted to a water injection well to support the ongoing secondary waterflood currently active in Antelope Creek.

The rods and tubing have been pulled from this well. The injection string consists of 2-3/8", 4.6# J-55 EUE tubing. The packer is installed at 4614' KB. Packer fluid has been circulated on the backside and a successful MIT test performed and submitted to the EPA.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) <u>Callie Duncan</u>	TITLE <u>Production Asst.</u>
SIGNATURE <u>Callie Duncan</u>	DATE <u>01-28-05</u>

(This space for State use only)

RECEIVED

JAN 31 2005



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

JAN 25 2005

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Matt Corser  
District Engineer  
Petroglyph Operating Company, Inc.  
4116 W 3000 South Ioka Lane  
P.O. Box 607  
Roosevelt, UT 84066

RE: **AUTHORIZATION TO INJECT**  
**Ute Tribal No. 21-12**  
**EPA Well ID: UT20736-06479**  
**EPA UIC Area Permit No. UT20736-00000**

Dear Mr. Corser:

Thank you for submitting information pertaining to the newly constructed or converted Ute Tribal No. 21-12 enhanced recovery injection well to the Region 8 Ground Water Program office of the Environmental Protection Agency (EPA). The "Prior To Commencing Injection" requirements of Authorization for Additional Well UT20736-06479, for the Ute Tribal No. 21-12 injection well, required well owner and operator Petroglyph Operating Company, Inc. to submit the following information to the Director:

- A successful **mechanical integrity test (MIT)** demonstrating Part I Internal MI,
- **Pore pressure calculation** of the proposed injection zone, and
- completed EPA Form No. 7520-12.

All required information has been submitted, and has been reviewed and approved by the EPA. Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal No. 21-12 enhanced recovery injection well under the



Printed on Recycled Paper

conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

As of this approval, responsibility for permit compliance and enforcement is transferred to the Region 8 UIC Technical Enforcement Program office. Therefore, please direct all future notification, reporting, monitoring and compliance correspondence to the following address, referencing your well and UIC Permit number on all correspondence regarding this well.

Technical Enforcement Program - UIC  
U.S. EPA Region 8, Mail Code 8ENF-UFO  
999 18th Street, Suite 300  
Denver, Colorado 80202-2466

The Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal No. 21-12 shall not exceed 1898 psig. Please be reminded that it is the responsibility of the owner/operator to be aware of, and to comply with, all conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

If you have any questions regarding this Authorization, please call Dan Jackson of my staff at (303) 312-6155. For questions regarding notification, testing, monitoring, reporting or other Permit requirements, the UIC Technical Enforcement Program may be reached by calling (800) 227-8917.

Sincerely,



Sandra A. Stavnes  
Director  
Ground Water Program

cc: Maxine Natchees, Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe  
P.O. Box 190  
Fort Duchesne, UT 84026

Chester Mills  
BIA - Uintah & Ouray Indian Agency  
P.O. Box 130  
Fort Duchesne, UT 84026

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe  
P.O. Box 460  
Fort Duchesne, UT 84026

Gil Hunt  
Technical Services Manager  
Utah Division of Oil, Gas, and Mining  
1594 West North Temple - Suite 1220  
Salt Lake City, UT 84114-5801

Ed Forsman  
Sr. Petroleum Engineer  
BLM - Vernal District  
170 South 500 East  
Vernal, UT 84078

Nathan Wiser, 8ENF-UFO



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

JUN 30 2005

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Michael Hackney, Geologist  
Petroglyph Energy  
555 S Cole Road  
PO Box 7608  
Boise, ID 83707

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

RE: **Final Authorization to Inject**  
**EPA UIC Permit No. UT20736-06479**  
**Ute Tribal 21-12**

Dear Mr. Hackney:

On January 25, 2005, Petroglyph Energy (Petroglyph) was authorized for an initial, limited period of injection into the Ute Tribal 21-12 enhanced oil recovery injection well for the purpose of stabilizing the injection formation pressure prior to demonstrating External MI, considered necessary because the proposed injection zone was underpressured due to previous oil production and the tests rely on stable formation pressure. On June 9, 2005, Petroglyph submitted results of the required demonstration of Part II (External) Mechanical Integrity (External MI). This External MI demonstration was made by submitting the results of a radioactive tracer survey (RTS) run on June 2, 2005.

EPA has reviewed, and approves, the results of this demonstration of External MI. Therefore, effective upon your receipt of this letter, authorization hereby is granted for continued injection into the Ute Tribal No. 21-12 enhanced recovery injection well under the conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued. Further, the RTS was run at a maximum tubing pressure of 1850 psi and thus demonstrated External MI at that pressure. Therefore, the Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal No. 21-12 is 1850 psi.

Please be reminded that it is the responsibility of the owner/operator to be aware of, and to comply with, all conditions of Authorization for Additional Well UT20736-06479 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

RECEIVED  
JUL 05 2005


DIV. OF OIL, GAS & MINING



Printed on Recycled Paper

If you have any questions regarding this Authorization, please call Dan Jackson of my staff at (303) 312-6155. For questions regarding notification, testing, monitoring, reporting or other Permit requirements, the UIC Technical Enforcement Program may be reached by calling (800) 227-8917.

Sincerely,

  
Tracy M. Eagle  
Director  
Ground Water Program

cc: Maxine Natchees, Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe  
P.O. Box 190  
Fort Duchesne, UT 84026

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe  
PO Box 460  
Fort Duchesne, Utah 84026

Mr. William Stringer, Manager  
U.S. Bureau of Land Management Vernal Field Office  
170 South 500 East  
Vernal, Utah 84078

Mr. Chester Mills, Superintendent  
U.S. Department of the Interior  
Bureau of Indian Affairs  
Uintah and Ouray Agency  
P.O. Box 130  
Fort Duchesne, UT 84026

Mr. Gilbert Hunt  
Acting Associate Director  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114